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EDMUND RUFFIN, EDITOR AND PROPRIETOR.

Extract from 'The Life of Sir John Sinclair, by his Son.'

ON THE ESTABLISHMENT OF THE BRITISH BOARD OF AGRICULTURE.

In what degree this generous ardor in the cause of husbandry and internal improvement was fostered and matured by the exertions and examples of the founder of the Board of Agriculture, may be seen from the following letters from the author of 'The Treatise on Rural Affairs;' from a learned professor now alive; from a late distinguished philosopher; and from an illustrious personage, whose sentiments on all topics connected with the national welfare must be deeply interesting to every subject throughout the empire. Writing to Sir John Sinclair on high rents, Mr. Brown says, "Had you not called the spirit of the country into action, and induced the tenantry to think as well as act, such rent would never have been thought of." Professor Low designates Sir John "the individual who has rendered the most essential services, which any one has ever had it in his power to render, to the agriculture of this country." On another occasion he says, "There is no one so justly entitled to speak of the claims of agriculture as you, whom all Europe admits to be its most zealous and distinguished supporter."

From Sir Humphrey Davy.

"*Jan.* 6, 1809.

"*Dear Sir*,—I am much obliged to you for the important document you had the kindness to send to me.

"Amongst the various monuments of patriotism, which you have raised, and for which posterity will bless you, this will not be one of the least useful. It is surprising that it should be so much more easy to make men attend to their pleasures than their interests; yet, till within the last fifty years, agricultural economy was a dead letter. I hope you will live to see England independent of all foreign supplies. I can hardly conceive a greater or a more grateful triumph for you.

"We are going on with the plan for the Royal Institution, and, I trust, it will become, with the assistance of the dignified and patriotic character of the country, a great and permanent establishment. I am, dear sir, with the highest respect, your obliged servant,

"H. DAVY."

—

From his Royal Highness the Duke of Clarence.

"*Bushy, Nov.* 20, 1801.

"*Dear Sir*,—I heartily agree with you, that this country might, by attention to its agriculture, commerce, manufactures, and above all, its fisheries, become not only the admiration and envy, but also the school of the universe. Without flattery, you were the first man of fashion that began the improvement of husbandry, and I have only the merit of being one of your most zealous followers. Ever believe me, dear Sir, yours truly.

"WILLIAM."

"*Bushy House, Feb.* 22, 1827.

"*Dear Sir*,—Last night I received yours of 18th inst., from Edinburgh, and its accompanying statement, for which accept my sincere thanks. Every nation ought to pay all possible attention, and give every encouragement to agriculture. I must feel most sensibly the kind expressions you use in your letter towards myself, and wish from the bottom of my heart, I had been of that real use to our country that your worthy self has been, and most particularly at the head of the Board of Agriculture. I remain yours unalterably,

"WILLIAM."

The usefulness of this great central institution radiated to the remotest dependencies of the British crown. In Bengal, the chief agricultural deficiency had always been the scanty support for cattle and horses. On the suggestion of the Board, lucerne and Guinea grass were tried with success. I find the Court of Directors, in a dispatch to Marquis Wellesley, the Governor General, expressing their satisfaction at the prospects of those productions becoming "an invaluable acquisition to the Bengal provinces." I have not hitherto been able to ascertain how far this expectation has been realized. An eminent botanist, however, informs me that he received, some time ago, good specimens of lucerne from Calcutta, though he was not aware, till I informed him, how the plant had been introduced. The Board likewise caused experiments to be made in the cultivation of potatoes and of hemp in the East Indies. For the improvment, also, of the West Indies, they transmitted a collection of seeds from Sumatra to Jamaica and St. Vincent. This collection proved so acceptable, that the House of Assembly, in the former island, passed a vote of thanks to the donors. The Board was, also, the means of introducing into those islands, that important article of ship-building—the teak-tree.* I have much satisfaction in adding, that the West India body, both collectively and individually, took every opportunity to express their gratitude to Sir John for his various exertions to promote colonial agriculture.

The President was able to be more useful in this foreign department, by securing the assistance of numbers for whom he had procured situations in the colonies. To those, who expressed gratitude for his patronage, his usual answer was, that all the return he asked would be, to receive from them information or productions that might be useful to husbandry, either in other settlements or at home.

The interest taken in the proceedings of the Board was fully as great in all parts of continental Europe as in Great Britain itself. I have already noticed, that M. Otto, the French ambassador from the Consular Government, applied, in 1800, to the President, for a list of such works relating to agriculture as were most likely to promote the internal improvement of France. While complying with the request, Sir John enclosed copies of a paper which he had then recently drawn up on

* See Arthur Young's Lecture to the Board, pp. 58, 59.

experimental farms, together with some plans of circular cottages, and of a country village. His plan and papers were submitted to the National Institute, which appointed two of its own members, Messrs. Tessier and Cels, to examine and report upon them. These eminent savans, not only gave a highly favorable report, but took occasion to express, in strong terms, their admiration of Sir John Sinclair's exertions in the general cause of humanity. The Institute voted him their thanks, and ordered his communication to be printed and circulated among the members. M. Tessier, in other instances, was quite eloquent in his eulogium of the Board. "True citizens," said he, "men who judge wisely, the cordial friends of France, cannot see, without a noble jealousy, England forming a Board of Agriculture. There is not a wise man, and a friend of humanity, who will not applaud with me, operations so well concerted, and so promptly executed." A number of my father's works were either abridged, as I have already noticed, in the 'Bibliotheque Britannique,' or translated entire into various continental languages. He received diplomas from many of the philosophical, and from all the agricultural societies of Europe; he carried on an extensive correspondence, not only with Tessier above-named, but with Lastevrie, Silvestre, Maurice, Pictet, Hertzberg, D'Einsiedel, Voght, Edelecrantz, Hauterive, and other noted patrons of his favorite science; he was, moreover, in the habit of receiving visits from foreign students of agriculture, who anxiously consulted him on the subject, having come from the most opposite extremities of Europe, from Finland or Calabria, from Volhynia or Andalusia.

Nor was America less alive than Europe to the benefits resulting from this rich and varied storehouse of agricultural knowledge. Washington recommended an American board of agriculture, constructed on the plan of that in England. And, although a national establishment of this nature was not founded for the whole Union, yet his suggestion was adopted by the state of New York, which, in 1819, appropriated out of the public treasury $10,000 annually for the improvement of husbandry. The success of this institution was universally acknowledged in America.

Extract from the Quarterly Journal of Agriculture.

HONOR TO THE MEMORY OF SIR JOHN SINCLAIR.

In parting with this book, and with its illustrious subject, we have but a few suggestions to make. To what was the greater part of Sir John's Sinclair's fortune devoted? To the promotion of agriculture. To what was the greater portion of the late Sir John Sinclair's life devoted? With enthusiastic and unwearied perseverance to the improvement of husbandry. Has any man, in any age or nation, ever done more for the cultivation of the soil, for extending the means of the earth's fertility, than the late Sir John Sinclair did? If such there be, let him be named, for we know him not.

Callous as the public may for a time be to the claims of merit—thankless as the world may for a time seem, to even its best benefactors, yet it is cheering to think, that seldom or never has pre-eminent desert been ultimately deprived of its honors. Certainly, with regard to the distinguished projector of the 'Statistical Account,' and founder of the Board of Agriculture, this day of public acknowledgment has not yet arrived; and proud would be our feelings, could we suppose ourselves the humble but helping instruments in a cause, which we sincerely think to be less a generous, than a just one. If ever man deserved a public testimonial of invaluable services rendered to the community, Sir John Sinclair is that person. May we not most respectfully suggest to the Highland and Agricultural Society of Scotland, that it could not be unbecoming in them to take a lead in this matter. Were subscriptions limited to a guinea, to make the thing as general as possible; and if the district agricultural societies throughout Scotland were called into co-operation, we have not the smallest doubt, that a sum would be shortly raised, which would honorably evince the farmer's gratitude for the exertions of Sir John Sinclair, and Scotland's pride in having produced such a son.

Without delay a committee should be appointed to regulate the detail of a matter so intimately connected with the national character and honor. Let it be column, statue, or bust—we care not which—only let us feel aware, that among survivors there are some "zealous for a good man's fame."

Extract from the Quarterly Journal of Agriculture.

CULTIVATION OF COTTON IN HINDOSTAN.

From the cane we now pass to the cotton-tree, many species of which are indigenous to the soil of India. Mr. Sullivan, late collector at Coimbatore, says, that two kinds are native to that part of the country; and Mr. Gibbon, in his essay on the agriculture of Behar, specifies three varieties as cultivated there, Rehdhea, Hawlee, and Jeitowa. The Rehdhea is the finest, and is sown about the autumnal equinox, along with oil-seeds. These ripen in January, when the stalks are pulled up by the roots, and the ground thoroughly hoed and watered. This operation is continued through the month of February, March, April, and May, when the cotton ripens. It is said, that the fine Dacca muslin was formerly made from this cotton, but now there is none exported from the district where it grows.

The Hawlee cotton is sown along with the Indian corn in June. The corn is cut in September, when the lands are hoed and watered only two or three times until May, when the pods are gathered. The produce and quantity of this variety is nearly equal to that of the Rehdhea, the quantity of seed to cotton being as three to one. In like manner, the Jeitowa cotton is sown along with Indian corn at the beginning of the rains. While growing it requires neither cultivation nor watering, and the proportion of seed to cotton is as five to one. This is the kind of cotton so well known in commerce. Another kind, called Kokety is cultivated in the north of Tirhoot; it is of a yellow color, and is preferred for making fine thread. The produce is generally scanty and impoverished. We believe that there is great truth in the supposition, that the degeneracy of the Indian cotton may be in a great measure imputed to the careless and slovenly manner in which the natives pick it from the pods on the tree, taking a portion of the dry brittle husk along with it, and allowing it to ac-

quire dirt and sand by carelessly tossing it about on the ground when separating the seed. In America this is obviated by the trees being planted in rows at considerable distances, so that, in gathering it, none of the dried leaves are brushed off among the fine fibres of the cotton.

By adopting this mode, and by using machines for cleaning the cotton from the seed, there can be little doubt that the staple and fineness of the Indian cotton might be so much improved as again to fit it for the English market, and compete with the American. "Thousands and thousands of acres," says Mr. Graham, "black as ink, and of inexhaustible fertility, lie a perfect waste on the plains, betwixt any two villages in the Deccan, all capable of producing cotton and other products available to the wants of man. Labor is also so remarkably cheap, that in Guzerat a man is hired, not including his food, for the small sum of £3 per annum. In the Deccan, according to the reports of Lieutenant Colonel Sykes, the average is about £3 12*s*."*

As constituting the material of the principal manufacture of India, cotton ranks next in importance to rice, its staple grain. We have already hinted that the quality of that at present raised by no means equals that either of Brazil or of North America; yet it is reasonable to suppose, in a country where the cotton-tree in such varieties grows spontaneously, and in such luxuriance, that a due attention paid to its cultivation would soon render the product superior to that of countries not so congenial to it. In reference to this article, the late Sir John Malcolm, that enthusiastic benefactor of India, inform us, that, "deeming this a subject of much national importance, I not only gave it my attention in India, but have continued to do so in England. I visited Manchester, and have communicated with all from whom I could obtain information calculated to promote the object. The result has been a conviction that a much greater proportion of the trade in this material than India now enjoys may, with care and management, be obtained to that country, a result which will prove equally beneficial to it and England." Speaking of the Bourbon cotton, Mr. Sullivan also says, that "all that is wanting to evince the extended cultivation of this species of cotton, which is superior to most of the American uplands, is the judicious application of a large capital. A steady encouragement of the staple would be one of the greatest benefits that England could confer upon her Indian empire." It may be remembered by some that it was the produce of this plant which sold in the London market, in 1830, at 8*d*. per pound, and which, if a sufficient quantity could have been obtained, would, in the opinion of brokers, have realized 9*d*. From the number of valuable papers on the subject in the last volume of the Agricultural Transactions of India,† it is evident that an ardent desire to improve this very valuable plant now pervades India; both the soil and climate of which seem so admirably calculated to bring it to a perfection it has by no means hitherto attained there. Indeed, we have little doubt that, with proper care and cultivation, the cotton of India may be made to compete with the American, and rendered fit for the English market—a circumstance which would be extremely beneficial for both countries, as we might receive all our raw material from the East, and, through the aid of our admirable machinery, return it to them again in the shape of cloths of our varied manufacture.

* Means of Ameliorating India, pp. 66–7.

† We particularly allude to the Papers on the Cultivation of Cotton, by Baboo Radhakant Deb. On the Culture of Cotton in the Dooab and Bundelkund, by W. Vincent, Esq. On the Artificial Production of New Varieties of Cotton, by H. Piddington, Esq. Method of Preserving the Cotton Plant in Cayenne. Remarks on the Cotton of Ava, by Major Burney. On the Cotton of Cachar, by Captain Fisher. On the Cotton of Dacca, by Dr. G. Lamb. On the Culture of Upland Georgia Cotton at Allahabad, by Mr. Higgins, &c., &c.

From the Complete Grazier (late edition.)

ON THE BREEDING AND REARING OF PIGS.

Swine are capable of propagation at eight or nine months; but the boar should be at least twelve months old before he is admitted to the sow, which will farrow a stronger and better litter, if she be kept to the same age. The period of gestation is from seventeen to twenty weeks;* when from five to ten, or more pigs, are produced: one boar should not be allowed to serve more than ten sows; and those sows are reckoned the best for breeding strong pigs which have about ten or twelve paps.

Where swine are kept solely for the purpose of *breeding*, it is necessary to pay the same attention to the principle of selection as in other articles of live stock. Hence, whatever sort may be required, the boar and sow should respectively be chosen as perfect in symmetry, and all other requisites as may be practicable; for the value of the progeny will mainly depend on the qualities of the sire and dam, and stock can never be raised with so much profit from inferior as from superior animals. They should also be well kept, in order to produce the necessary stimulus to coition; but, as with other cattle, care must be taken that sows, when expected to take the boar, be not too fat; experience having shown that, if they be in very high order, they will not produce an abundant litter of pigs.

As some will produce two litters in the year, the breeder will find it beneficial so to arrange each time of farrowing, that it may take place about the latter end of March or early in April, and towards the beginning or end of August: thus he will be enabled to rear them with less cost, and certainly with less probability of losing the pigs from cold weather, than if they were produced late in autumn. While the sows are in pig, they will require to be kept on nutritious food, in order that they may be in good heart at the time of farrowing, and after they have littered, it is absolutely necessary that they be regularly fed; for if the young pigs are deprived of their proper nourishment while sucking, they will never arrive at the weight they would otherwise attain. They should also be kept well littered and clean; but at pigging should not be allowed too much, as they are apt to overlay their pigs in it, for the first week.† At the end of a week or ten days after having farrowed, they may be let out of their styes into their yard, for three or four hours during the middle of the day, in or-

* According to M. Teissier's observation on the gestation of animals, already alluded to in our preceding remarks on the other kinds, the extreme gestations of 25 sows were 109 and 143 days.

From the whole of his observations, M. Teissier infers, that the period of gestation is extremely variable in every species; and that its prolongation does not seem to depend either upon the age or constitution of the female, or upon the diet, breed, or season; or, in short, upon any known cause.

† In order to prevent such accidents, an open frame is sometimes placed on each side of the sow under which the young pigs can run, and thus escape the danger. A strong rail, elevated a few inches from the ground, will answer the same purpose.

der to stretch their legs, which is far preferable to total confinement.

It sometimes happens, at the first farrowing, that young sows will eat their progeny; to prevent which, they should not only be narrowly watched, as the period of gestation is expiring, but also be moderately fed, two or three days before the expected time arrives. Where, however, this precaution has been omitted, it has been recommended to wash the backs of newly-farrowed pigs with a sponge, dipped in a lukewarm infusion of aloes and water, which will prevent her from destroying them. Another circumstance worthy of notice, where there are several sows farrowing at the same time, is to confine them in separate pens or styes, otherwise they will mutually destroy their offspring; and, as these animals are, at such time, extremely mischievous, they should be supplied with plenty of water, which expedient is said to prevent them from committing any injury.

The best time for killing *sucking pigs*, for the market, is at the end of three weeks; by which time the others intended to be raised, will be able to follow the sow, and then the males may be castrated; the spaying of females may be deferred for another week.

When it is proposed to wean pigs, (the proper age for which purpose is two months, having castrated such as are not reserved for breeding at six weeks,) they should be kept in styes, having a small yard wherein they may run; both being kept perfectly clean and well littered. Their food must be good, and given as plentifully as they will eat. Boiled potatoes or carrots for a fortnight, and then raw ones, will prove good food; with a bait every day, for a month, of oats, and afterwards pea, or bean, barley, or buck-wheat meal, unless there is a dairy; in which case, a mess of milk or whey may be substituted till the clover-field is ready for them, which may be in the beginning of May, and, if the pigs are three months old, they will thrive well on that food. Lettuce has also been found very serviceable, not only on account of the succulence of the plant, but from its promoting an inclination to sleep, which is of the utmost importance to the growth of young animals; but in the rearing of pigs, no kind of food can bear a comparison with milk. During the weaning, especial care ought to be taken in supplying them with abundance of sweet straw, and to keep the pigs in as clean a state as possible, so that they may always have fine sleek coats; a circumstance this of such consequence, that the want of it can never be compensated by the most plentiful suppply of food.

In the management of swine, of whatever breed or variety they may be, it will be proper to have them *well ringed*, to prevent them from breaking into cornfields during harvest; and that operation ought to be performed as early as possible, or the practice recommended by Mr. Tubb, a spirited breeder, at Lord Somerville's cattle-show, in 1805, may be substituted in lieu of ringing. It consists simply in shaving, or paring off, with a razor or sharp knife, the gristles on the top of the noses of young pigs: the place soon heals over, and they are thus rendered incapable of that destructive rooting, or turning up of the ground, which farmers find so detrimental to sward land.

Sows may be allowed to breed till they are six years old; and a boar to serve them till he has passed his fifth year. After that time, the former may be spayed, and put up to fatten; and the latter may be castrated, as he is then no longer fit for generation, though his flesh will make excellent bacon.

In *buying and selling swine*, both in a *fat* and *lean* state, it appears, from actual and repeated experiments, that in the former case, every twenty pounds of live weight will, when killed, produce from twelve to fourteen clear weight; the advantage being in favor of large hogs; so that, if a farmer or breeder weigh the animals while alive, he will be enabled to ascertain the net profitable weight when dead. By weighing the hogs every week, he may also judge the best time for disposing of them to advantage; because, as soon as an animal ceases to acquire that daily increase which makes it beneficial to feed him, the best step that can be followed is to sell, or slaughter him without further delay.

With regard to the buying of hogs in a *lean* state, the most certain criterion, by which any judgment can be formed, is by weight; but as open markets seldom afford the means of weighing, a purchaser is generally compelled to rely on the accuracy of his eye; and, therefore, if he has not already acquired sufficient experience, if a few lean pigs, of the same size as those intended to be purchased, be previously weighed, a standard will be obtained, which will enable him to decide with some precision, and, consequently, to offer a proper price.

On the feeding and fattening of swine.

When permitted to wander abroad, at pleasure, swine devour in marshy and miry grounds, fern, frogs, sedge, &c.; but in drier spots, they feed on sloes, crabs, hips, haws, chestnuts, acorns, beech-mast, and similar wild fruit. In the domestic management of these animals, however, the quality and supply of their food is regulated by the divisions into which they are classed, according to their age and other circumstances. In order, therefore, that the food may be expended to the most advantage, it will be advisable to distinguish these animals in the following manner:— 1. Sows with pig; 2. Pigs; 3. Store pigs; and 4. Fatting hogs.

1. With regard to *sows in pig*, it is obvious that they should be better fed than either of the two following classes, in order that they may be enabled to supply their young litter with the necessary supply of milk; but, while care is thus taken to keep them in good condition, equal caution is necessary that they be not too fat. Thus, for such as litter in the spring, tares and cabbages, combined with the waste milk and wash of the house and dairy, may be employed with advantage; or, if the supply from the dairy be not adequate to the demand, a wash may be prepared with oat, barley, or other meal. For those which litter in autumn, lettuces have been found very wholesome and nuitritive, in addition to the wash; and in the winter season, potatoes, Swedish turnips, and other roots, previously prepared by boiling, should be added.

2. With regard to *young pigs*, they may be fed, after being weaned, in the same manner as sows; but the addition of pea-soup, made by boiling a bushel and a half of peas in about sixty gallons of water till they are thoroughly broken and dissolved, and either given alone or mixed with the dairy wash, will very materially improve their condition. If any dry meat be given, Mr. Young is of opinion that oats are preferable to any other sort of corn, as barley is apt to disagree with them.* It certainly has frequently had that effect when the grain has been given whole, but no species of food has been found more fattening than barley-meal, especially when combined with milk: it is also an excellent addition to steamed potatoes. Whatever may be the food, it is commonly thought that it better promotes the growth of young pigs if given warm, than cold.

An intelligent farmer in North Britain, who keeps from five to seven breeding swine, disposes of most of their produce, when from six weeks to three months old; considering this system fully as profitable as fattening them for sale. At these ages he generally has a good demand for them, as many people, such as tradesmen, villagers, &c., wish to fatten a pig, who

* Farmer's Calendar, p 22. Mr. Marshall also mentions that opinion as being prevalent in Leicestershire. Midland Counties, 2d edt. Vol. I. p. 329.

could not conveniently keep a breeding cow. Having this advantage, there is scarcely a cottager, or weaver's family, in the neighborhood, who have not their fat pig killed, after being fed on the refuse of their potatoes and the offals of their kitchen, to the weight of from eight to twelve stone.* In the vicinity of large towns, and particularly where there is the advantage of a dairy, it will be found more profitable to keep them until about four months old, and sell them fat as porkers, unless when they are farrowed so early in the spring as that they would become fit for the butcher in the heat of summer, at which time pork is not usually saleable.

3. *Store pigs* are those which have attained nearly half their growth, and should be separated from others in the course of May, when they may be turned out upon the artificial grasses. Here they are to continue till Michalmas; but in order that this system of management may be attended with due effect, it is necessary that all the fences be in excellent repair, and that there be a pond in the field to supply the animals with water. A larger number of swine may be thus kept, and they generally pay a fair price for their feed; but with all the advantages of the system, that of soiling swine in the yards, will usually be found more profitable, notwithstanding the expense is greatly increased, and some portion of food will be necessarily wasted; for, by being kept quiet and prevented from rambling, they thrive faster than in the field, and the manure is more valuable when thus collected, than if dropped abroad. The proper vegetable crops for this purpose are lucerne, cichory, clover,† tares, and other green meat. But, in order to carry on this system with effect, there should be an ample supply of litter, together with sand, peat, or earth, to be laid on the ground for the purpose of absorbing the urine. For the winter keep of store swine the various roots are admirably calculated, such as turnips and potatoes, which require to be boiled; and Swedish turnips, cabbages, carrots, mangle-wurzel, and parsnips, which may be given in a raw state. Potatoes, when given alone, should be *steamed*; but it has been found more advantageous to give them in conjunction with turnips, in which case the latter are *boiled*, and the liquor is given with the roots, which are then made into a mash; the liquor from potatoes should never be given. It may be almost unnecessary to add, that the Swedish turnip is preferable to the white, whether boiled or raw. With regard to the soiling of pigs, Sir John Sinclair has noticed a discovery of considerable moment; it is, that they may be soiled on *cut green beans* with great profit, and that they are ravenously fond of these. The Windsor sort is preferred; and the beans should be planted at three different times for the sake of regular succession. The feeding may commence in the beginning of July, and terminate about the end of September. When pork is worth 7½d. per lb., the profit, besides a quantity of most valuable manure, is calculated to be about £10 per acre.‡

4. The business of *fattening hogs* is generally performed in February or March, and in the month of October. For *pork*, they are usually fattened from six to nine months old; for *bacon*, from nine months to a year and a half; and store swine to the same period, or very rarely, beyond two years; the latter, however, is the preferable age, for substantial bacon for farmers' use, for which purpose the hog should also be made quite fat. For porkers, butter-milk, whey, and barley-meal are preferable; for bacon hogs, equal parts of fresh pollard and pea-meal have been recommended; and it is a fact, that white pease are much better calculated than beans either for feeding or fattening swine, as these animals not only fatten more kindly when fed with the first-mentioned pulse, but their flesh swells in boiling, and has a good flavor; while that of swine fattened on beans will shrink in the pot, the fat will boil out, and be less delicate in point of taste. Hence many farmers even reject grey-peas, as approaching too near to the nature of the bean, and making the meat tough and dry. The proportion of peas requisite to fatten a hog necessarily varies according to the size, breed, and kindliness of disposition to fatten; but forming an average judgment from the weight of the animal, both before and after he is put up, a hog in good condition when put up, and intended to be fatted to twenty score, will consume about six or seven Winchester bushels of peas; and it has been found that each bushel will increase his weight after the rate of nine or ten pounds. They are generally given raw; but some experiments tend to show that they might be more advantageously used boiled to the consistence of thick soup. It may answer for porkers; but we imagine that whole peas will produce the best bacon. It is also said that eight bushels of a mixture of equal parts of ground peas and steamed potatoes, will fatten a hog of twelve stone weight.

The most profitable mode, in the estimation of Mr. Young, of converting any kind of corn into food for swine consists in grinding it into meal, and mixing the latter with water, in cisterns, in the proportion of five bushels of meal to one hundred gallons of water; this must be well stirred several times in the day, for a fortnight, during warm weather, or for three weeks in a colder season: at the expiration of which time it will have fermented and become acid. In this state, and not before, the wash is ready for use: it ought to be stirred every time before feeding, and it will be necessary to keep two or three cisterns fermenting in succession, in order to prevent it being used before it is duly prepared. The difference of profit between feeding in this manner, and giving the grain whole, or only ground, Mr. Y. adds, is so great, that whoever tries it once, will not be induced to change it for the common methods. The refuse wash, or grains of distilleries, likewise furnish a wholesome and useful article in the feeding and fattening of swine. The refuse of starch manufactories is also employed with great advantage for the same purpose. For the general stock of hogs, during the month of October, and part of November, cabbages are of incomparable use. Swine are at that period often very cheap; and in such case it is of material consequence, that the farmer be amply supplied with an article of food, by which means he can keep this stock for a better market; in fact, without a provision of cabbages, or other roots, it will be impossible to keep large stocks of store swine to the best advantage.

The time which is requisite for fattening may, upon an average, be computed at five or six weeks, or thence to two or three months; and this period will, in most cases, be found fully adequate for the purpose, though the length of time is necessarily regulated by their kindliness of disposition to take on fat, the relative goodness of their condition when first put up to fatten, and the quality of the food. On the latter subject more experiments have been tried on pigs, than upon any other animal; from an idea that in consequence of their extraordinary voracity, they will fatten on any thing. It is true that they will grow with any kind of garbage that fills their stomachs, and that they will even put on a certain quantity of flesh when fed only on potatoes; but good, firm bacon is only to be made by means of sound corn and pulse, and in exact proportion to the nutritive quality of the food will ever be the weight and value of the meat.

Whatever system of fattening swine may be adopted, it is of essential consequence that they be kept warm and clean, especially in cold and damp weather, during the period of fattening; and that they also be supplied

* Sir John Sinclair's System of Husbandry pursued in Scotland, vol. I, p. 149.

† Where *cottagers* have gardens and keep pigs, it would be profitable if they had a small spot of clover in their garden to cut for them.

‡ Sir John Sinclair on Scottish Husbandry, vol. II, p. 18.

with abundance of litter, the cost of which will be amply repaid by the increased proportion of excellent dung thereby obtained. It has, indeed, been frequently asserted, that swine thrive better while fattening, if they be allowed to wallow, at home, in their own filth, and abroad in mud and wet, because they delight in this habit; and thence it is assumed as certain, that it tends to their advantage. Such an assertion, however, is rather the offspring of prejudice than the result of real experience; we know that animals, when oppressed with heat, will plunge into water in order to cool themselves; but it cannot be inferred from this circumstance, that it will be necessarily beneficial to them. In addition, therefore, to some remarks which will be subsequently offered on the structure and situation of the piggery,* we shall here state, particularly with reference to its connexion with their fattening, that a hog sty should be built with the advantage of running water, so as to admit sufficient for the swine to drink, if such a situation can be commanded; the floor, or ground, being laid upon a gentle declivity to carry off their urine.

Not only, however, should these animals be kept warm and dry while fattening, but they should also be confined, if possible, by themselves; or, at all events, there should be as small a number in the same sty, and as much out of the hearing of the cry or grunt of other hogs as possible; otherwise, upon their first confinement, they will pine and decrease in flesh, notwithstanding they have abundance of food given them. By this means they will be enabled to take more frequent and uninterrupted repose, which greatly contributes to promote their fattening; beside which, all those inconveniences will be effectually obviated, which often occur from hogs worrying each other, and from the weaker being deprived by the stronger of their fair proportion of food.

Regularity of feeding should likewise be especially regarded, as it has great influence in facilitating or retarding the fattening of swine; hence it will be proper to give them a full allowance of food three or four times, or at certain other stated intervals, in the day, as convenience or other circumstances will allow. And, if any animal should have surfeited itself, (which is no unusual occurrence, where due regard is not bestowed on the point last stated,) by eating too large a proportion of food, it will be advisable to give about half an ounce of flour of sulphur in some wash, once or twice in the course of the day, for two or three successive days. By this simple remedy their palled appetite will be restored more effectually than by administering antimony, or any other drug that has been recommended to use in fattening swine; for, however, such articles may *possibly* have succeeded in a *few* instances, it is obvious that they cannot be generally employed with advantage, and may not unfrequently be productive of hurtful effects.

A practice has been for a long time introduced in the county of Essex, though not yet generally followed, of fattening pigs in separate stalls. These are so constructed, as to admit only one pig each, only allowing room for him to lie down, but not to turn; they are built with the bottoms on a sloping direction to carry off the filth, and some persons do not give any litter, from an idea that their chewing it might be prejudicial to their thriving.

The food given is usually barley-meal and water; and they are found to fatten far better in these styes, than in the common ones; which is attributed to their being more quiet, having only to eat and sleep; it has, indeed, been found, that a hog half fat, when put into one of these cases, has gained fifteen pounds a week in flesh.†

This experiment has also been tried with success, by Lord Egremont, in Sussex. A hog was confined, on the 4th of March, in a cage made of planks, of which one side was made to move with pegs, so as exactly to fit him, with small holes at the bottom for the water to drain, and a door behind to remove the soil. The cage stood upon four feet, about one foot from the ground, and was made to confine the animal so closely, that he could only stand up to feed, and lie down upon his belly; the sliding partition was extended according as he increased in size.

This hog when put up weighed eleven stone two pounds, (eight pounds to the stone,) and was killed on the 13th of April following, when he weighed eighteen stone three pounds, having thus gained seven stone two pounds, live weight, in five weeks and five days. His food consisted of two bushels of barley-meal, and about eighteen buhsels of potatoes; he was sulkly during the first two days, and would not eat. The most remarkable part of this experiment, however, is, that seven other hogs of the same breed were put up in the common mode, and killed at the same time; and though better fed, were not in equal condition.*

Lord Egremont has also tried a comparative experiment on the value of barley and rice as food for pigs. It is not stated with sufficient accuracy in the county report in which it is mentioned,† as the respective gross cost is alone stated, without the weights; but the pecuniary result was in favor of the barley.

In that experiment the rice was given dry; but in another it was boiled, and the result was as follows:—

The total weight of ten hogs, put up on the 3d of November, was - -	1,045 lbs.
Ditto, on the 30th of December - - -	1,668
Gain in live weight - -	623 lbs.
The quantity of rice consumed, was - -	3,033 lbs.

Which, being at the rate of five pounds of rice to one pound, live weight, of flesh, clearly shows that rice cannot be used for this purpose with advantage, unless it can be obtained for a far less price than that at which it is usually sold.

The Piggery.

When the profit arising from the rearing of swine is duly considered, and there is an opportunity of carrying on this branch of rural economy to any extent, it will be admitted, that the establishment of a *piggery* demands nearly as much attention as a dairy.

A piggery, in the opinion of Mr. Arthur Young, should be in a circle, or it must fail in convenience; according to his idea, in the centre there should be the boiling or steaming house, with a granary for corn, meal, &c. Around this a range of cisterns ought to be disposed, in divisions, for receiving immediately from the copper, or steam apparatus, and also by tubes from the granary. Around these should run a path, then a fence or paling, in which are the troughs, with hanging lids, for supplying food directly from the cisterns, on one side, and for hogs feeding on the other; a range of yard next, and another of cow sheds beyond, and last of all the receptacle for the dung. The potato stores, or *pyes*, should at one end point near to the entrance, and water must be raised to the coppers and cisterns at once by a pump; a trough, or other conveyance from the dairy to the cisterns, for milk, whey, &c. An arrangement like this, he conceives, would be very convenient, while the expense attending it would be inconsiderable; and great profit might be derived, by setting apart a plot of natural or artificial grasses, into which the swine might be turned at pleasure. "Those," he adds, "who do not possess a convenient pig apparatus, can have little idea of the great use of it in making manure. This alone becomes an object, that would justify any good farmer in going to

* See the part referred to at the close of this article.
† Young's Agricultural Survey of Essex, vol. II, p. 343.

* Agricultural Survey of Sussex, p. 386.
† Ibid, p. 389.

a certain expense, for attaining so profitable a part of what ought to be his farm-yard system."*

By means of a yard constructed on this plan, Mr. Young fattened *eighty-eight* hogs in one spring, with the attendance of only one man; whereas three would have been inadequate to the task without such conveniences. The total expense of such a yard, he thinks, would not be less than £150; and, if it were constructed according to the more correct idea, the cost would amount to £200 or £250, but the *governing idea of position* should be followed in a *sty of* £20.

This plan, however, is obviously calculated only for those farms where the fattening of swine is carried on upon an extensive scale. Where these animals are kept chiefly for domestic consumption, it will be sufficient if hog-styes be constructed with due regard to warmth and dryness, and divided into various partitions for the reception of swine, according to their age and varieties. Each division should be between six and seven feet in width, of such a height as the largest pigs can conveniently enter, and should be provided with a small space sufficiently capacious for holding the feeding-troughs, so that the swine may be conveniently fed without unnecessarily going in among them. If possible, troughs should be so arranged, that offal, milk, &c., may be conveyed into them from the milk-house, or scalding-house, by means of pipes; and as these animals often thrust their feet into the troughs, and thus waste a considerable portion of food, this may be avoided by fixing sticks in a frame over the troughs, not unlike a rack; or a thin piece of plank may be nailed on the back part of the troughs, and so project as to allow their heads only to enter.

This object may also be attained when swine are put up to fatten on dry food, by fixing a conical hopper (holding any given quantity) in a trough, with the broad end upwards, and covered with a strong lid; at the lower end should be an aperture for giving out the meat into the trough, where the animal may eat it as it falls, without being capable of spoiling or wasting any portion of it. By adopting the expedient here suggested, the further advantage will be derived in fattening swine, that, by feeding more leisurely than in the common mode, their food will probably be more thoroughly masticated; the effect of which has been thought to render their fat more firm, and of a better flavor.

From the Essex Standard.

MODE AND ADVANTAGE OF RAISING IRISH POTATOES FROM SEED.

It has lalely been frequently stated, that, in some counties, there is a great failure of the potato crop. This, I think, may be remedied, another season, by sowing the seed, instead of planting sets. Sets will not last above twelve or fourteen years: after that time, they decline, and hardly return treble the bulk of the potatoes planted. I tried the experiment last year in a small way, and the produce was astonishing. What appears remarkable to me is, that these seedlings produce potatoes of different kinds, and, sometimes, new sorts are procured. I saved the red rough seed, and I had five sorts from it. The following is the method to get them the size of hens' eggs in one year: Take a bunch of potato apples of any sort, in November, when they are ripe; hang them up in a warm room during winter; and, at the end of March, separate the seed from the pulp, by putting them into a basin of water until they are soft. Then squeeze them with the fingers; and, after gently pouring off the water, sow the seeds in drills, with the feathers of a goose-quill, in a good bed of earth. When the plants are about an inch high, draw a little earth up to them with a hoe, in order to lengthen their main roots; and, when they are about three inches high, dig them up, and separate them carefully from each other, in order to prepare them for planting out in the following manner:. Prepare a piece of fresh ground by trenching it well; dig up the seedling plants, as before directed, and plant them out in the ground thus prepared, in such a manner as that there may be 16 inches between each plant. As they advance in growth, let them receive one or two earthings up, in order to lengthen the main root, and encourage the shoots underground. By this management, potatoes may be brought to a good size in one year.

From the Loudon's Gardener's Magazine.

COMMUNICATION OF FOREIGN FLAVORS TO FRUITS.

If I had seen vol. XII. p. 52. of the '*Gardener's Magazine*' sooner, I should not have waited till now to satisfy, as well as I could, the desire of your correspondent, A. B., on the "manner of making a peach taste of wormwood." The day has gone by for people believing the impositions practised by a few gardeners to deceive the multitude; but, by attentively studying the process of vegetation, certain phenomena will appear, which are not so easy to explain, even with the assistance of physiology; and it is still more difficult to give a decided opinion on the subject. For example: at first sight, the assertion of Mr. John Murray, of giving the smell of the onion to the rose, by being planted near it, appears ridiculous; and yet, even the celebrated De Candolle, in his *physiologic vegetale*, omits giving an opinion on the subject; a proof that there is room for improvement in vegetable physiology, and particularly as it regards smell and taste. For my part, I can tell you, as a fact, and a well established one, that all the wine merchants abstain from going to a particular part of the province of Vicenza for their wine; and the reason of this is, that the wine there smells of the walnut, because the peasantry have a custom of training their vines on walnut trees, instead of using vine props. This smell may arise from different causes; and it is a remarkable fact, that the walnut does not always give its flavor to the grapes it supports, but, in general, only to those which have grown on light and dry soils, when the vine has received any bruise, or wound, such as by a severe shower of hail, or by the roots having been injured by the plough. It thus appears to me, that, wherever the wine tastes of the walnut, the spongioles of the vine could not have been in a healthy state: the greater part of them must have been decayed; and, from the connexion between the root and the stem, when the hail injures the shoots of a plant, even the fibrils of the roots suffer, and are probably destroyed. It is evident that the mutilation which the vine sustains by the plough must also

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* The Earl of Egremont has an extensive range of styes, at Petworth, constructed nearly upon Mr. Young's plan; an engraving of which, with the necessary explanations, may be found in the Agricultural Survey of Sussex.

destroy the fibrils; and, in both cases, a section of the main root becomes the opening through which the juices of the soil are absorbed; and, instead of these juices being digested and properly prepared by the spongioles, they are conveyed to the plant through the decayed or mutilated roots, either by capillary attraction, or the absorbent power of the roots, in a greater quantity, and in a comparatively raw state. As the roots of the walnut which communicate with water are known to give it their smell, all the moisture which comes in contact with the roots of the vine is impregnated with this flavor; and, being absorbed and transmitted, without digestion, through the truncated roots, it gives the same flavor to the grapes. In the *Nouveau Cours d' Agr.*, under the head of "Parsley," you will see it remarked, that if the celery (sedano) is covered with new dung, it will taste of it. I have mentioned this in a paper which I have written on celery, in the *Giornale Agrario Lombardo-Veneto;* and shown how much the French gardeners are in error, in taking up or transplanting celery; by which method few or none of the plants have their roots entire. Keeping these examples and principles in view, and following the same process, who can say that it is impossible that the smell of the onion may not be given to the rose, and the taste of wormwood to the peach, &c. ?—*G. Manetti. Jan.* 4. 1837.

From the Southern Agriculturist.

ON THE SACCHARUM OF THE SWEET POTATO, (CONVOLVULUS BATTATAS.)

By Robert Hare, M. D., Professor of Chemistry in the University of Pennsylvania.

Dr. Tidyman, of South Carolina, lately supplied me with some sweet potatoes, of a kind in which the sweet matter is peculiar abundant, and reques ed that I would ascertain if there were any sugar in them. Having pared, and by means of the instrument used for slicing cabbages or cucumbers, reduced them to very thin slices; about a pound was boiled in alcohol, of the specific gravity of .845, which appeared to extract all the sweetness, yet on cooling, yielded no crystals of sugar. The solution being subjected to distillation, till the alcohol was removed, an uncrystallizable syrup remained. In like manner, when aqueous infusions of the potatoes were concentrated, by boiling or evaporation, the residual syrup was uncrystallizable. It appears, therefore, that the sweet matter of this vegetable is analogous to molasses, or the saccharum of malt. Its resemblance to the latter was so remakable, that I was led to boil a wort, made from the potatoes, of proper spissitudes, say s. g. 1060, with a due quantity of hops, about two hours. It was then cooled to about 65 degrees, and yeast was added. As far as I could judge, the phenomena of the fermentation and the resulting liquor, were precisely the same as if malt had been used. The wort was kept in a warm place, until the temperature 85 F. and the fall of the head, showed the attenuation to be sufficient. * Yeast subsequently rose, which was removed by a spoon. By refrigeration, a further quantity of yeast precipitated, from which the liquor being decanted, became tolerably fine for new beer, and in flavor exactly like ale made from malt.

I have computed that five bushels of potatoes would produce as much wort as three bushels of malt; but I suppose that the residue would, as food for cattle, be worth half as much as the potatoes employed.

I believe it possible to make as good liquor from malt in this country, as in England, but that in our climate much more vigilance is required to have it invariably good, principally because the great and sudden changes of temperature, render malting much more precareous. Shou'd the saccharum of the sweet potato prove to be a competent substitute for that of germinated grain, the quality will probably be less variable, since its developement requires but little skill and vigilance.

Besides, as it exists naturally in the plant, it may be had where it would be almost impossible to make, or procure malt. Hops, the other material for beer, require only picking and drying to perfect them for use. They are indigenous in the United States, and may, no doubt be raised in any part of our territory.

I have dried in my evaporating oven, some of the sweet potatoes in slices. It seems to me that in this state they will keep a long time, and may be useful in making leaven for bread. They may take the place of the malt necessary in a certain proportion, to render distiller's wash fermentable. The yeast yielded by the potato beer, appeared in odor and flavor to resemble that from malt beer surprisingly, and the quantity, in proportion, was as great. In raising bread, it was found equally efficacious.

I propose the word *suavia*, from the latin *suavis*, sweet, to distinguish the syrup of the sweet potato. The same word might, perhaps, be advantagously applied as a generic appellation to molasses, and the uncrystallizable sugar of grapes of honey, and of malt.

Crystallizable sugar might be termed sccharin, since the terminating syllable of saccharum is appropriated in chemistry to metals.

To JOHN HARE POWELL, ESQ.
Corresponding Secretary
Of the Pennsylvania Agricultural Society.

* In passing to this state, there should be a loss in gravity of about four per cent.

From the Quarterly Journal of Agriculture.

RACE HORSES.

It would be absurd to draw a comparison between the English race-horse in training, and the horse of the desert; "educated," as Mr. Gibbon eloquently says of him, "in the tents, among the children of the Arabs, with a tender familiarity, which trains him in the habits of gentleness and attachment." Nevertheless, we are inclined to believe that the tempers of many naturally quiet horses are made uncertain, and ofttimes decidedly vicious, by want of proper judgment, as well as good temper, in those also who have the management of them. Brutes, like men, demand a peculiar mode of treatment, when we require them to do their utmost for us; and it is certain that this principle holds good in regard to both; namely, that if general kindness gains this point, cruelty provokes resistance, and a proper degree of severity produces obedience. We often hear it as-

serted, that the British thorough-bred horse has degenerated within the last few years, and is no longer the stout and long-enduring animal that he was in the bygone century, particularly during the last twenty years of it. We are inclined to believe that there is some truth in this. We do not think we have such good four-mile horses, as they are termed, as formerly, which we consider easily accounted for. They are not wanted; very few four-mile races being now run, even at Newmarket, in the country; and, therefore, a different kind of race-horse is sought for. It may, however, be true, that the inducement to train colts and fillies, at a very early period of their lives, for these short races, has had an injurious effect on their stamina, and, consequently, on the stock bred from them. Formerly, a horse was wanted for a lifetime, now he is cut up in his youth, to answer the purpose of perhaps but one day—a system, we admit, quite at variance with the original object of horse-racing, which was intended to benefit the community, by being the means of producing, as well as displaying, the constitutional strength of the horse in its very highest perfection. Another cause may have operated in rendering thorough-bred horses less powerful than they were, or less capable of enduring severe fatigue. During the period of high weights and long courses, horses and mares were kept on a training until after they had arrived at the age of maturity, neither did they begin to work so soon. Whereas now, no sooner have they won, or run well for some of our great three-year-old stakes, than they are put into the stud to produce racing stock, which, perhaps, is to be used much in the same manner as they themselves have been used, or we should have rather said, abused. But to return to the alleged alteration for the worse in the British race-horse. We admit the fact, that he is not so good at high weight over the Beacon at Newmarket, or any other four-mile course, as his predecessors were, whose descent was closer than his to the blood of Herod and Eclipse, and the decendants of that cross, said to be the stoutest of any. Nevertheless, he is, in his present form, more generally adapted to the purposes to which the horse is applied. He has a shorter but more active stroke in his gallop than his predecessors had, which is more available to him in the short races of the present time, than the deep rate of four-milers of old times; and he is now required to start quickly, and to be on his legs, as the term is, in a few hundred yards; he is altogether a more lively, active animal than formerly, and as such, a useful animal for more ends than one. But as it is action, after all that carries weight, the thorough-bred horses of this day are not deficient in that respect, unless undersized; and there are more thorough-bred hunters at this period, and have been more for the last thirty years, than we have ever known before. This improvement of action also qualifies the full-bred horse for the road; whereas, formerly not one in a hundred was fit to ride off the turf. Indeed, daisy-cutters and thorough-bred horses were nearly synonymous terms; but at present a young lady on a bit of blood is an every-day sight; and a young gentleman on any thing else in the parks, or on his road to the hounds, is become rather a rare one.

ADDRESS TO THE AGRICULTURAL SOCIETY OF FREDERICKSBURG, AT THEIR NOVEMBER MEETING. *By J. M. Garnett, Pres't.*

Published by request of the Society.

For twenty successive years we have annually commemorated, in this town, the establishment of our society; and it has been *my* good fortune, with a few of our earliest members, never to have been absent on any of these occasions. At each such meeting, too, and in discharge of the duties of the office with which you have so long honored me, I have constantly addressed you on all such subjects, connected with our agricultural interests, as appeared to me worthy of your notice. Singly, perhaps, my statements and remarks may often have been deemed of little or no value; but it has ever been my anxious endeavor to render them, as *a whole*, promotive of the great cause to which our mutual labors have been devoted; and your constant re-appointment of me, for so long a period, to preside over your deliberations, has afforded me the gratifying assurance, of your undiminished confidence—at least in the sincerity of my motives, and the perseverance of my exertions. Among my various efforts to preserve this confidence, I have, for the last few years, given you the result of certain experiments—some made by myself—some by other persons; and in conformity to this practice, I shall preface my general remarks, with a few details of the same kind.

My attempts to ascertain the best varieties of corn—suited to our soil and climate—have been and will be continued. For although thoroughly satisfied, after three years' experience, that the twin corn, of which my whole crop now consists, is superior in every essential quality, to all other varieties yet known to me, I am not so bigoted in its favor as to believe it impossible to find a preferable kind. Indeed, I have already heard of several who condemn it; but since a large majority of those who have tried it, concur in its praise, I cannot help suspecting that the malcontents are much such doctors in farming, as some we have in medicine, who make it a point to censure every practice and all physic, but their own. Each planter almost, in these aspiring times, has a pet corn of his own, which he most fondly desires to christen after his own name. The usual consequence is, that if he is prevailed upon to make any trial of others at all, he so manages as to give his own scale the preponderance, and the other, of course, is made to kick the beam. Although this practice is certainly a most preposterous folly, and greatly impedes all agricultural improvement, still it is so common, as materially to lessen the value of many of the statements we see published as agricultural experiments; for we can often discover, by the style and manner of the writer, that he had determined before-hand, (although unconsciously,) how the trial was to end. But to return to my own corn experiments.

I could procure but three varieties in time for last spring's planting. The first was a pale, straw-colored corn; the grain small, flinty, and heavy, but only eight rows on a long cob. It ripened very early; but had nothing else to recommend it. The second is a yellow corn from Galveston Bay, in Texas; but although its ears are much larger, and the stalks much taller than the first

named kind, we have two or three varieties of yellow corn among us which I think preferable. The third kind is a very white corn, from Gloucester county, in this state, where it is in high repute. The ears are uncommonly large—the grain somewhat flinty—heavier than any gourd-seed corn, but the stalks not so tall. It promises so well that I shall try it again. One thing in its culture, as well as in that of the Texas corn, was peculiar, and perhaps is worth mentioning. The only working which either kind received, after coming up, was with the hand-hoe, and that only three times. But both look as well, and promise to yield as much as if they had also been ploughed, although not more. Each was planted in a single row—one, two, and three stalks left in a place, and about four feet apart. But from so small a trial I can make no estimate sufficently accurate between thick and thin planting, although it is very important to ascertain which is best. The particular treatment of the two kinds, suggests a few remarks which, I hope may not be deemed irrelevant, as to the long mooted question as to the best implements for cultivating all our varieties of corn. Upon this interesting subject, it is manifest, that there must still be much ignorance and great error, or such diversity of opinion could not prevail. To ascertain the truth is becoming every day more important, from the increasing probability that Indian corn, must be considered our chief staple—at least in all the tide water portion of Virginia. Among these errors, in my opinion, is the assumed fact that all Indian corn is injured in proportion as the roots are cut during its culture. The reason why I think so is, that every implement yet used among us for the purpose, *does*, and unavoidably *must* cut many of its roots; for they run horizontally, very near the surface, and extend from row to row, long before the culture is discontinued. Yet it is notorious, that the seasons being favorable, good crops are generally made on good land, by judicious corn-planters, whatever may have been the implements used in working them; and none better than by double plough and hand-hoe, although this plough can not possibly be run between any two rows of corn without cutting all or nearly all the intervening roots. Nay, that the best practised eye can not distinguish between the probable product per acre, of corn made in the latter mode, and *that* made by the most approved modern practice. The fair inference from this fact should be, that when there is a real difference between any two crops of corn, (all other circumstances being alike, except the implements used in making them,) such difference is not attributable solely, if at all, to the roots being cut more in the *one* case, than in the *other*, but to some cause not ascertained, or we should never see two crops equally good to all appearance, where implements had been used—differing materially, in their root-cutting effects. At least one instance of this fact I stated to you, at our last meeting, in regard to corn cultivated entirely with the cultivator and hand-hoe, and that in the culture of which the single plough had also been used. In *that* case there was no difference discernible by several disinterested gentlemen, whom I called upon to examine the two adjacent piecies of corn, without apprising them why the call was made. My conclusion from these facts is, that the culture solely by harrow, cultivators, and skimmers, after the corn comes up, is, in no respect, superior to that by the plough and hand-hoe, but in the saving of labor; although this advantage of itself is sufficient to justify every corn-maker in adopting it on all light soils, and even on those inclined to be stiff. But for hard clayey land,—especially, if it be wet, long observation has convinced me that the plough culture is best. Even on soils where the harrows, cultivators, or skimmers are preferable to the plough, the land should be well coultered very soon after the corn comes up, to secure for the shallow culture its chief advantage. A considerable depth of tillage is essential in *all* soils, to make good crops of corn. It is so, not only for the spreading and nurture of the roots; but to guard against that formidable enemy, *drought*, which, for many years past, has almost constantly assailed us; no implement can so effectually give *that depth* as the single coulter, which accomplishes the purpose, without changing the relative position of the earth's surface and substratum: an operation that would be death to all our very light, sandy lands, if effected to a greater depth than two or three inches.

To such of our speculative brethren as require at least a show of scientific reasoning for each fact connected with agriculture, I would respectfully offer the following conjecture to account for the equality of product in two crops of corn under management nearly opposite, as regards the root-cutting process. Lest I should be suspected of mistakiug supposition for fact, I must here state that many observant farmers have assured me, that they have often noticed, as I have, crops thus differently situated, and could discern no difference either as to quality or quantity; although I have heard of no case where an actual measurement was made. But permit me to offer my conjecture.

May not the extremity of each cut root throw out, near its end, more little fibres bearing spongioles, than such roots would have produced, had it not been cut; and thereby conpensate fully by their numbers, for the loss of their original spongioles? *If such be the fact*, then cutting the corn-roots to the common extent, is, at least, no disadvantage, even admitting the spongiole doctrine to be indisputably true. But if no such compensation occurs—if the exscinded spongioles are never replaced, then the equal product of two acres of corn cultivated by very different implements, as to root-cutting, must be accounted for on some other principle, than the one generally assumed as perfectly settled in regard to the corn culture.

I beg you, however, not to rank me among those who deny that cutting corn roots, while the plants are growing, does any injury. It may, or it may not greatly diminish the quantity of the crop; for I plead ignorance on the subject, having never yet seen nor heard of any such fair and accurate trials between the various modes of cultivating corn, as would satisfactorily prove which was best, although no trials would be more useful to us. Yet I have met with many of our corn-making brethren, who appear verily to believe, if their own assertions are to be credited, that they have already attained perfection in this art. The skepticism which I am not ashamed to confess in regard to the extent of our skill in it, is not for their

benefit; since I feel myself incapable of giving even a useful hint to those who seem thoroughly convinced that they have nothing more to learn on this subject. But the foregoing suggestions are offered in the hope of rendering some service to the younger portion of our corn-planters, by inducing them to undertake a series of accurate comparative trials, on a small scale, of the different modes of cultivating corn, in the same soil; for it is by such means alone, that we can ever ascertain the best. A man in perfect health is a fool for going to a doctor to make him better; but any one in our profession is a much greater fool ever to persuade himself that he has attained perfection in any one branch of husbandry. Constantly, therefore, to strive at improvement, should be both our principle and practice, for it is the only way to obtain it. This keeps our minds as continually active as they could be in any other occupation, and relieves them from that tedious sameness too generally supposed to be inseparable from agricultural life. All we have to guard against is, not to let experiment-making become our chief business—in other words, *not to pay too much for our whistles*; as we did during the epidemic for buying the merino sheep; and as we seem now in some danger of doing in regard to imported cattle. The first might be called *a ram-fever*—the latter, *a bull-fever;* but we are certainly fast improving in these fancies, since we now procure for about the same money per head, two or three thousand times as much English beef, as we formerly did Spanish mutton.

Another of my experiments with corn has been, to ascertain the difference, if any, between that of which the entire stalks were cut up and secured in small piles, having about sixty stalks in each, and corn from which the blade-fodder was stripped at the same time, and the tops cut in few days after. This was done about the middle of September, and the comparison made in two different parts of my field, about a quarter of a mile apart; but in each case it was between the cut-up corn, and that taken from standing rows, immediately contiguous. I made no measurement, of the quantity of either, but compared only the weights, believing that the heaviest would prove, in all probability, the most productive, as both were of the same kind. The comparison was made about six weeks after the corn was cut up, and first with the largest piles —the grain from which weighed two pounds in the bushel *less* than the *other* taken from the corn then standing; although one appeared as well matured as the other. On the quality of the fodder, I took the opinion of my negroes, who, not knowing why I questioned them, were impartial judges They pronounced it better than the stacked fodder, on the inside of the piles, and not much hurt on the outside; but I must mention that only one rain had fallen on it in six weeks. The corn from a small pile in the other part of my field, weighed $1\frac{1}{3}$ lbs. per bushel *less* than the *other*, and the fodder was nearly ruined; but that was caused by the pile having fallen down unperceived, and being exposed a day or two.

The results of this experiment are so different from several others reported in our agricultural papers, as to force me to conclude, that there must have been very great inaccuracy and error in many, if not in all of them. I will not except my own, and shall, therefore, repeat it with more care. One of these experiments reported in the fourth volume of the 'American Farmer,' as having been made by a Mr. Charles Woodson of Virginia, states that the grain alone of the cut up corn weighed more, ('tis not said how much more,) than the grain and fodder put together, of that which had been managed in the common way—making a difference in favor of the former, of something more than the entire labor of securing the blades and tops of the other. This ought to settle the question forever, supposing Mr. Woodson's experiment to be perfectly correct; for the common calculation is, that in ordinary seasons the proportion of blade-fodder to corn, is only about one thousand weight to every twenty barrels. But this experiment is so remarkable—so contrary to all previous opinion on the subject, as to be well worth repeating by every corn-maker in the state.

I have dwelt more on the subject of Indian corn than I should have done, had it not been for its daily increasing importance since the general failure (especially in Virginia,) of so many successive wheat crops. But I shall quit it for the present with only a few additional remarks in opposition to the prevalent opinion that corn exhausts land more than wheat.

All crops diminish the fertility of soil, if either the whole or the greater part be taken off; so say numerous old and observant agriculturists whom I have consulted; so says my own experience. The term "*ameliorating crops*" is, therefore, a perversion of language, unless when applied to such as are returned to the land, either wholly or chiefly. That they differ materially in their deteriorating effects, is certain; but this difference cannot, I think, be explained, (if indeed it be explainable at all,) by any abstract reasoning, however scientific; for there is much in regard to the kind and quantity of food necessary to the perfection of each species of plants, that still remains, and probably will forever remain, among the mysteries of nature.

Opinion, therefore, founded upon frequent, fair and accurate comparative trials, made by credible persons, is the only standard by which we can test the conflicting creeds on this subject. Let us then compare the evidence for and against corn being a greater exhauster than wheat. The affirmative have nothing, as far as I have ever heard, to support their belief, but mere hypothetical reasoning, or the old closure of all arguments, "I think so, because I think so." The negatives, among whom you must rank me, can adduce numerous cases of corn having been cultivated on the same land from ten to twenty years, without intermission, (a practice by the way highly censurable,) without manure, and without a greater apparent diminution of the product and fertility of the land, than they have witnessed where only two or three crops of wheat had been taken immediately after each other, from the same ground, although the seasons were as nearly similar, in every respect, as could well be remembered. One instance of the kind occurred in my own farm some years ago, where two crops of wheat were made in two years from the same land, made too before I had formed any opinion on the subject, and in the hope that the practice might succeed very well. My disappointment was very great; for I have never seen such impoverishment produced in the same time, by any crop except tur-

nips. Yet, in England, turnips are called "*an ameliorating crop.*" But well it may, when the whole is fed away on the ground to sheep, which impart much more fertility than the turnip crop consumes. In this case it is the *sheep* that ameliorate, and not the *tunips*; the praise, therefore, is misplaced.

The reasoning applicable to the opinion just advanced, I shall leave to others who are fonder than I am of wandering through the *terra incognita* of causes and effects, and shall content myself with assuring you that I have met with experienced planters and farmers from almost every portion of our state, whose observations confirm my own. Should it ever happen that more well authenticated facts can be adduced on the opposite side than on my own, I will cheerfully retract, or rather change my opinion.

My experiment with spring wheat was made only with one quart. It was drilled in March last, in rows twelve inches apart, and on land which I conjectured would produce four or five barrels of corn to the acre. This wheat was worked twice with the hand-hoe, and hand-wed twice; the produce was only seven quarts and a half a pint; the weight was not ascertained.

As this variety of wheat bids fair to take a conspicuous stand among the agricultural hobbies, of which I verily believe we have more than all the other classes of society put together, because we never will consult and co-operate as a class, it may possibly be of some use to give you the experience of several men of the olden time, like myself. I present it, however, only for the benefit of those, (now reduced to a number, comparatively very small,) who deem retrospection quite as fruitful a souce of instruction as that derived solely from your "*go ahead boys*," who scorn ever to look back for any thing but subjects of ridicule and contempt. Our memory tells us of trials made many years ago, with what was then called "*spring wheat.*" I will not be positive as to dates, but believe it was before or about the time when the Hessians imported (as some of our wiseacres thought,) the fly which has ever since borne that odious name. Those trials lasted only a few years, and were discontinued for two reasons: 1st, because the spring wheat yielded no more than the winter wheat, if as much—and secondly, because the sowing of it interfered two much with our Virginia fashion of taking all our farming operations, quite "*cool and easy.*" Since that time we have heard little or nothing about "*spring wheat,*" until certain keen-scented brethren of ours—(I will not say *where,*) have discerned, that we southerners were getting all agog for this hobby to come to life again. Pray do not imagine that I say this to discourage trials; for I myself mean to take a short ride on it next spring—if the per diem-charge be not too exorbitant beyond the ordinary cost of hobby-horsical rides. My statement is made solely to moderate extravagant hopes, which, if disappointed, always do more harm than good, by discouraging further experiments. I do it moreover, to excite your just indignation against all agriculturists who take advantage of new and untried popular notions in husbandry, to extort from the ignorant and over sanguine of our profession, double, triple, and quadruple the worth of the new article which they may have for sale. *Some* extra price is allowable and just; but, when the demand rises, as it often does, to several hundred per cent beyond what any disinterested person would say was full compensation, it then assumes the character of *grinding extortion;* and, what aggravates the immortality of the act, *extortion* from the over sanguine or grossly ignorant, upon whom every just and honorable man would utterly scorn to impose—even were his mortality so much of the "tit for tat" kind, as to permit him to take advantage—*if he could*—of those who were striving, with might and main, to take advantage of him. This blood-sucking practice of man upon man, is worse than that of the carnivorous brute beasts; for none of the same species, in their wild state, and before they are indoctrinated by their lord and master, *man*, will ever eat each other.

With regard to the spring wheat, at present under trial, in various parts of our country, a very remarkable circumstance occured to some with which one of my brothers was making an experiment. He drilled it in his garden last spring twelve months; but it was so injured by the fly, as not to produce a single head. It survived, however, the succeeding fall and winter; grew off very well this last spring; and produced, in the past summer, as good a crop apparently, as it would have done, had it been only of this year's growth. I have a statement from our brother member, Mr. John Taliaferro, (M. C.) of a similar circumstance occurring to him in 1820, with some imported Talavera wheat, which he had sown as a spring wheat. This proves, I think, that the chief difference between winter and spring wheat, as regards their capacity for resisting the Hessian fly, is, that the first encounters the enemy twice, the latter only once. It proves also, that some wheats—like some kinds of rye and oats—may, with nearly equal propriety be called spring or winter grain, according to the season when you sow them. I assert this from a well recollected fact, that I once saw a good crop made from what was then called the Isbel forward wheat, sown in February; and also from the fact that the Talavera wheat which at first cost $5 a bushel, was generally sown as a winter grain. Several farmers now living in this neighborhood, I dare say, can yet testify how dear they paid for their Talavera—whistle.

Before I quit the subject of wheat, permit me to give you some interesting information procured from Georgia, through the kindness of Dr. Haynes—a member of Congress from that state. Mr. Moore, a friend of his in Warren county, had a few grains of wheat, which he calls the early yellow wheat, sent to him in 1829, by Mr. Wm. H. Foote, of Fairfax, in this state. It was carefully planted on the 20th of November, in the same year; was cut the following May, and produced half a bushel of clean wheat, weighing seventy pounds to the bushel. From this small begining, it has spread very generally in that part of Georgia, under the name of Moore's wheat; has never weighed less than seventy pounds to the bushel; and in one instance, something over. He names several farmers who have pronounced it the best wheat they ever saw, and among them a Mr. Latimer, who has ground in his mill a great quantity of it, and confirms their opinion. Mr. Moore adds, that it has a strong, hard straw—ripens early, and is not so liable as other wheats

to be injured by the Hessian fly. Mr. Foote himself, whose character as a farmer is favorably known to several of us, says of this wheat, (which he calls early red,) that it has a smooth head—has constituted about one half of his wheat crops for thirteen years, and has weighed from two to four pounds per bushel more than any of his other kinds—the heaviest of it being sixty-three pounds and the lightest sixty pounds. It ripens from the 10th to the 15th of June. He says that all early wheats have proved best with him, but he thinks none of any kind worth sowing, unless in land capable of producing forty or forty-five bushels of corn per acre. In another part of his letter—speaking of lime, he expresses the belief that the application of sixty or seventy bushels to the acre will double our crops: but I presume he means on a soil suited to lime. He seems to be one of the few of our profession who practise fully, what they preach; for he informs me, that he has already limed more than two hundred acres this year, and expects to lime another hundred before Christmas. This is a most laudable example to us all, and well worthy of our imitation. The foregoing statement I have taken the liberty to give you from a private letter, for which I hope Mr. Foote will excuse me. But having always acted, during my whole life, upon the principle of bestowing praise wherever it was due, I could not withhold it, in the present case.

The alarming decrease of our wheat crops, for several years, has produced many efforts to find a remedy, in the culture of some new varieties of wheat. But it is, at least, very doubtful, whether they will succeed any better than the old kinds, which have turned out far better this summer, than they have done for many harvests past. This strengthens the hope of their returning, after a few seasons more, to their former condition. Still let us try "the new brooms;" provided we do not hazard too much money in making the experiment; although I should deem honest any hazard worth incurring, rather than abandon our good old mother, Virginia, as long as there is even a shadow of hope of her resuscitation; and that hope must ever remain, until the vital spark is entirely extinct.

Might we not also adopt advantageously, some good auxiliaries to the wheat crop? The culture of the beet for making sugar, has already spread over a great part of Europe, and has been found so profitable as greatly to enhance the price of all suitable land. But the climate of many parts of the United States has been well ascertained to be even more favorable to the beet culture, than any trans-atlantic climate yet tried. Then why not follow the good example of Pennsylvania in forming a company to try the experiment in Virginia? Our legislatures, although once laboring under a kind of corporation-phobia which threw them into awful tremors at any thing that even smelt of a charter, have, for years past, been so marvellously fond of granting charters for all imaginable purposes, both above and below ground, that we too might reasonably hope to obtain one for making beet sugar; unless indeed, their habitual repugnance to doing any thing for agriculture should prevent it.

Again, the silk culture has long been carried on in Connecticut, and with constantly increasing profit, in consequence of the great improvements in their machinery, and general management. An additional argument in its favor is, that much less capital suffices than in the beet sugar business.

A third auxiliary to the wheat crop, and one in regard to the profit of which not the slightest doubt ought to exist, is, the broom corn culture. In some of our northern states it has been carried on for a long time, and has been continually augmenting, until the brooms and brushes manufactured of this very valuable plant have become articles of export to a great amount. In our own state, we see them in almost every house, yet our climate is better adapted than theirs to the growth of every variety of corn, and our lands are naturally better. To enable us, therefore, not only to supply our own brooms and brushes, on as good terms as we now buy them, but also to export them, nothing is wanting but that we should be inoculated with a modicum of northern enterprise, industry and perseverance. This inoculation, I trust, will very soon be performed for us by one of our medical friends, (a brother member,) who is now engaged with another gentleman of this town, in establishing a small manufactory of broom-corn, on Commerce-street. To both of them I most heartily wish that success which an undertaking so laudable and promising well deserves. From one of them I have received the following extract of a letter from a gentleman in Connecticut;

"Our farmers plant their broom-corn in hills two feet apart and the rows from three to three and a half wide. The average yield is from 600 to 1000 lbs. clean brush to the acre, and from sixty to one hundred bushels of seed. This, when well cleaned and ground, is esteemed half as good as corn, and is used in feeding stock of all kinds. It is said to be better than oats for horses, and better than buckwheat for feeding hogs. In planting, from twenty to twenty-five seed are put in a hill, but only ten are permitted to grow."

It does not perhaps become me, a non-resident of this town, although long connected by the ties of consanguinity and friendship with several of its inhabitants, and for more than half a century, sincerely interested in the welfare of all, to be pointing out to them the great natural advantages of their situation for various kinds of manufacturing establishments, to which few places in Virginia are better adapted; but I rely on my motives to plead my excuse, should any be deemed necessary. These establishments, if once put into operation, would not only give a great stimulus to the agriculture of all the counties connected with Fredericksburg, but would call into action much of the mechanical talent of the surrounding country, and bring to their aid both capital and skill from some of our sister states. As a source of individual wealth, comfort, and general prosperity, the improvement of these advantages to the utmost practicable extent, can hardly be estimated too highly: but as auxiliary means of drawing more closely the bonds of our heretofore happy union, such developement of natural resources would be of incalculable value—of inestimable worth.

But let me return to my experiments, of which I have only a few more to state, and these of minor importance. Twice during the summer and fall we suffered severely from drought. The consequence has been, that my experimental

crops of Irish potatoes, mangel wurtzel, and ruta baga, produced far less than I had every reason to hope they would do, had the weather been seasonable. Indeed, I should say nothing about them, were it not to state a fact relative to the potatoes, which may be worth mentioning. Three modes of planting them whole were tried: one was in drills which were twice hoed, another was in new-ground hills, never worked after planting; and a third by depositing them an inch or two deep in well prepared earth, and then covering them four or five inches deep with half-rotted saw-dust and leaves, mixed with some mould. These last produced by far the most in quantity, and were equally as good in quality.

Of the ruta baga and mangel wurtzel, I shall say no more than that their produce, notwithstanding the severity of the drought, has thoroughly satisfied me of the great advantage of cultivating them every year, be the seasons what they may, as very economical and effective aids in fattening cattle and hogs, and for feeding milch cows: mine eat the leaves as well as the roots, very greedily. The former you may begin to strip partially from the mangel wurtzel by the middle of October, although I believe it is a great error to assert, as some have done, that this process does no injury to the roots. Some cattle will not eat the leaves, at first, unless they are sprinkled with salt and water; but they soon acquire a taste for them. Let none, therefore, be discouraged, should their cows prove fastidious at the commencement. These poor brutes, like their owners, often know not what is good for them, until education teaches them better. As a sort of appendix to this root-report, permit me to say, that notwithstanding the numerous accounts which we have seen of fattening hogs solely with roots of various kinds, and even with apples and peaches, I have never seen nor heard of any trial in this state which does not contradict these accounts, and go to establish it as a fact, that hogs fit for making what we call *Virginia bacon*, (the sovereign dish at every Virginia table, whose master or mistress is emulous of the praise of good living,) cannot possibly be brought to the proper condition for making this very delectable viand, without a goodly portion of *Indian corn*, or some other grain or pulse. Economize it you *may*, and far more than we have ever yet generally done, but give it you *must*, if you mean to make what we southerners would pronounce to be *good bacon*. You may certainly obtain, without corn or other grain—a spongy, oily kind of pork, which, after the due salting and smoking, *may be called bacon*, by those who list; but it is scarcely more like the genuine Virginia article so called by us of the old native stock, than a wooden nutmeg is like a real one. Of *that* article, permit me to say, as the illustrious Sancho Panza said of sleep; "*blessed is the man who invented it;*" for although "*it covereth us not*" (like sleep,) "*as it were with a cloak*," it most powerfully helps our hardy yeomanry to do without cloaks altogether.

This caution against trying to make bacon by feeding hogs with roots and apples, or peaches alone, is probably quite needless to a Virginia audience; but of late years we have been, like the people of ancient times, "*seeking out many inventions*," and not unfrequently, with as little success. I have given it, therefore, because the extent of credulity in a tyro in husbandry, almost exceeds belief; and because there might *possibly*, be still some of them within the range of our influence, quite as credulous as an old doctor of this place a foreigner, of whom I have heard the following story. Upon his first settling here, in bygone times, he was hoaxed into the purchase of a fat sow and pigs, recommended to him, as *the "curled tail breed,"* that could live almost entirely without eating—of which fact the curls in their tails were appealed to as undeniable proof. Much elated, ('tis said,) with his purchase, so soon after reaching this land of promise, and determined to verify the recommendation, he penned the family forthwith, and after keeping them some two or three weeks without food, carried a few agricultural friends to see his great bargain; when both the mother and her curl-tailed progeny were found as dead as starvation could make them.

The Indian pea culture is still so much a favorite with me, that some of you perhaps may think it one of my hobbies; but that shall not deter me from making a few remarks on the subject. I have again cultivated the Chickasaw peas, and deem them well deserving the character which that true friend of knowledge, Mr. Herbemont, of South Carolina, to whose kindness I owe my first seed, gave me of them. Two other varieties which are new to me, have likewise been tried. One is a black-eyed pea, larger than the variety so called, and greatly superior to it, so far as one trial can prove, both for sale and our tables. The other is called "the blue hull pea," although the color is certainly a deep rich purple. The pea itself is of a pale whitish color, with a reddish yellow eye; it ripens late; is said to be very productive, and to be, as I have proved, an excellent table vegetable. These varieties—together with those formerly recommended, might supply our tables with a constant succession, from June to November, of this popular esculent—preferred by many to any English pea whatever; and also deemed equal, if not superior to Indian corn, for speedily fattening—either cattle, hogs, or sheep. As a green dressing for land, I think the Chickasaw-pea, (which does not run,) preferable to buckwheat, inasmuch as the growth of the former, on equal spaces, appears to be much heavier. In this, however, I may be mistaken, as I have judged only by the eye.

In regard to my rye crop, I will mention one fact on account of its novelty—not having seen nor heard of any thing like it before. Several stems have been found in my field, with two distinct heads and one with three. The double heads averaged 64 grains; the triple one was lost. The product has been carefully drilled in my garden, in the hope of its proving a distinct variety.

Having finished the detail of my experiments since our late Noverber meeting, permit me, for a while, to address you in the language of complaint. Many of you must recollect, that I have often, very often, importuned our members to communicate, as a matter of duty, at each fall meeting, any thing which had appeared at all remarkable, in his agricultural experience, during the intervening period. Little indeed, would be the trouble of such a practice to each, (as they need not write essays for the press,) while the aggregate benefit to all might exceed such trouble an hundred fold. It would have the farther good

effect of making us feel more—as we should do—like a family of brothers—bound to promote the family interests by mutual contributions—"here a little, and there a little;"—bound likewise, to honor, to sustain, and to perpetuate, by individual effort, the national importance of the great cause to which our society is devoted. No man who is engaged in that cause has a right to withhold his aid merely because he chuses to think it will be small. Of this he should let others judge, since to give something, and to give cheerfully, is in the power of all. My importunities, however, have yet produced but little fruit. This, I admit, may be chiefly owing to my own inability to persuade; although I must say, that men who have been so long and so amicably associated together as we have been, and for a purpose too—so patriotic—so vital, should not require any persuasion whatever, to exert their utmost efforts in its behalf. I may truly call ours *a vital cause*, for all who think of it at all, must feel it to be such, every time they appease their appetite for food: yet like the blessings of air—of light and of heat, which an all bounteous God has bestowed upon us, his ungrateful creatures, we treat it, and the numerous enjoyments derived from it, with a degree of unconcern and neglect that is almost impious. In by-gone times such neglect was little felt by the nation at large; for so great was the excess of our agricultural products beyond the wants of our people, that nobody, then, even so much as dreamt we should ever be indebted to foreign nations for the staff of life. Yet, within the last two years, and for one or two preceding, we have been compelled to buy a very large portion of our *daily bread* from other countries. Yes; from *other countries!* over which it has been our silly vanity to brag, on account of our imagined superiority in the practice, as well as in the theory of good government! Most truly may it be said of us, in this respect—if in no other—"*man that is in honor and understandeth not—is like the beasts that perish.*"

But let us examine a little, the proofs of this superiority—the grounds of the senseless vaporing. Our legislatures, both state and federal, instead of promoting our agriculture—that greatest, most important, next to general education, of all the elements of national prosperity—have been devoting a very large portion of their precious time, ever since the memorable contest for the presidency, between the elder Adams, Jefferson, and Burr, in determining who should reign over us, (with what profit, let others decide;) while the legislatures of those despised foreign countries have been most sedulously giving such legislative aid to their agriculture, as to be now supplying us, who boast of having one of the finest agricultural countries in the world, with a vast amount of the necessaries of life! Yet such is our ineffable self-complacency—than which nothing can well be more ridiculous, that, in spite of these alarming facts, legislators have recently appeared, who have publicly asserted, that "*our agriculture can take care of herself!*" Aye, and so she might, if she would make those whom she calls her representatives do their duty by her. But has she ever done it? *Will* she ever do it? No—never—never—until her sons shall learn to act less like sheep, (to which they have been so aptly compared,) always ready to be shorn of their wool for others' exclusive benefit; until they learn better to distinguish between the mere lip-service of those who flatter to deceive—who cajole to betray—and such men as sometimes risk the loss of their favor by opposing their prejudices and ill-grounded partialities, solely with a view to render them some great, lasting, and most essential good.

'*Our agriculture can take care of herself*'—can she? Now bear with me, my good friends, while I give you some of the delectable proofs.

By the report of the secretary of the treasury, just published, there have been imported into the United States, within the last eleven years and nine months of the past fiscal year, 73,610 cwt. of flour—3,394,884 bushels of wheat, and 195,627 bushels of oats, the aggregate value of which he states to be 4,767,543 dollars; all of which, however, as appears by his statement, has been imported within the last two years and nine months, except 20,825 dollars' worth. This I have taken from his statement, No. 1; but nothing is said in it of the quantities or value of the rye, corn, barley, and meal contained in No. 2 and 3. These give us, for the last two years and nine months, an aggregate of 244,981 bushels of grain; and the aggregate of 162,549 dollars to be added to the above. But there are still other important additions to be made to the preceding estimates, as it appears from statements procured since the date of the secretary's letter, from the collectors themselves, of Boston, New York, Philadelphia, and Baltimore, through the politeness of certain members of the United States Senate. These statements supply the means of correcting all errors and omissions in the secretary's report, which when taken with when first mentioned, amount to no less than 1,818,141 bushels of grain, and 1,254,219 dollars. *Without these additions*, the Secretary's Report will not show, by a very large amount, the whole quantity and value of flour and grain imported during the last twelve fiscal years, which the resolution of congress required that it should do. But when added to his statements, they exhibit the alarming total of 73,610 cwt. of flour—6,017,949 bushels of grain, and 5,333,962 dollars!* The whole of this vast sum,

*The following statement exhibits the relative quantities and value of grain imported within the last two fiscal years into New York, Baltimore, Philadelphia, and Boston; and furnishes a tolerable measure of the comparative wants of those portions of the United States, whose inhabitants purchase their grain from the cities here named.

	Wheat	Value.	Rye.	Value.	Corn.	Value.	Oats.	Value.
New York,	2,276,412	2,340,100	1,617,350	1,071,566	2,852	1,317	39,544	16,833
Baltimore,	1,343,060	1,339,809	210,528	126,316	750	558	3,468	1,453
Philadelphia,	139,343	214,338	46,215	32,285			127	137
Boston,	56,780	59,780	109,110	71,410	33,720	18,219	79,650	35,840
Total,	3,865,595	3,054,027	1,983,203	1,301,577	37,322	20,094	112,769	54,263

I verily believe, that we have had to pay from the want of proper legislative aid to agriculture: for although I am fully aware that legislation can neither prevent bad seasons, nor the thousand other natural ills that agriculture is heir to, yet I am equally well aware that, if she *had* received *that aid* ever since she first wanted it, all the ills she has suffered might have been so guarded against as always to protect our country from the necessity of importing any of her daily bread from other countries. The worst that could have happened to us would have been a brief, temporary failure to export grain.

The newspaper statement which you all have probably seen on this subject, falls far, very far, short of the truth; but defective as it really is, it contains matter of the deepest possible interest to the whole American nation. Yet, most strange to say, it has not elicited, so far as I have seen or heard, one solitary comment from any one of the whole editorial corps. If it has, I beg their pardon. It would seem, therefore, as if the *how* and *by whom* our fifteen or sixteen millions of fellow-citizens are fed, were matters to most of these gentlemen, of supreme indifference; or, at least far less to their taste than stories of sea snakes and great squirrel hunts, of steamboat disasters, big pumpkins, and gigantic men; or a tale of some poor unfortunate women having four or five children at a birth, "all hale and hearty;" or of stabbing matches, murders and sudden deaths of persons whose names even are not known to one in five hundred of their readers. To get hold of any of these marvels for their papers, and give it a run from Passamaquoddy to Key West, and from the shores of the Atlantic to the Rocky Mountains, in preference to any other topics, should not excite our surprise, when we reflect, that it saves them, for weeks and months together, the labor of bestowing so much as a single thought upon those great elements of social happiness and improvement—manners, morals, and education. That such should be the perversion among us, of the periodic press, is deeply to be deplored; for few things contribute more to lower and vitiate the public taste, than thus feeding it with the utterly worthless food of mere idle curiosity, rather than that kind of intellectual aliment which, if properly administered, would make men and nations what they ought to be. It is true, that among our hundreds of newspaper editors, we have many honorable exceptions to the foregoing remarks, and I take much pleasure in thus publicly declaring the fact. But few, *even of these*, are altogether innocent of having contributed far more than they need have done, towards poisoning the mind with party-politics, and thereby distracting it quite as much as marvellous tales have done, from that unceasing attention to all those grand objects of universal interest which most contribute to elevate both individuals and nations to their highest state of attainable perfection.

Let us not however dismiss this subject of our becoming importers instead of exporters of such enormous quantities of food for man and beast, without a few additional remarks.

Whence have we procured this vast amount of grain—costing a sum, one moiety of which would amply have sufficed to pay for an agricultural survey of the whole inhabited part of the union—to establish a Board of Agriculture and experimental farms in each state, and to endow an agricultural professorship in the university or principal college of each? Whence have we procured it? Why, from countries whose governments have, for centuries, been zealously acting upon that great truth in political economy, that if any of the arts of life required legislative aid, it was *that art*, upon the prosperity of which, every other absolutely depended for its healthful existence—need I say, it is the art of good husbandry, in all its branches, and especially of agriculture? But we who claim to be far ahead of every nation upon earth, in the science and practice of government, are living upon their bread, thereby heaping up bodily strength to reiterate our own vain boastings over them; boastings that degrade us, in this respect, below even the canine species—for a dog never barks at the hand that feeds him. The countries which are now supplying us with so alarming a portion of our daily food are incomparably more populous than ours, and therefore, had our agricultural policy been equal to theirs, must still have been, as *they* once were, tributary to us for a portion of their grain, since our means of subsistence would always be greater in proportion to *our* population than *theirs*, until the ratio between the inhabitants and the cultivated land became the same in both. But *they* have long been encouraging *their* agriculture by all the legislative means which their wisdom and patriotism could devise; whilst, we alas! instead of imitating so wise and patriotic an example, have been exhibiting to the whole civilized world the extraordinary, nay, the solitary spectacle of a great nation, (great at least in numbers,) apparently regardless, utterly regardless of what every other nation upon earth has long cherished as the chief—the most productive and important, by far, of all the sources of national independence, wealth and prosperity! If this be not true, literally true, let any man show me even so much as one solitary clause of a law, passed either by congress, or the legislature of Virginia, directly in favor of agriculture, or having any thing more than a remote beneficial bearing on her interests, and I will most cheerfully retract what I have said; for it gives me *severe pain* to contemplate the causes of my country's misfortunes, and *no pleasure* to find myself a true prophet in regard to their fatal consequences. The real friends, the genuine patriots of Virginia and of the United States, should seek for other employment for their thoughts, and zealously occupy them on subjects of infinitely greater importance than their own comparative sagacity in discovering why *we the people* are sick, and who has made us so. *Sick we are*, and *sick we are likely to be*, until we cease to quarrel about which doctor has most contributed to the national malady. The patient must die, unless both, (discarding all professional pride,) will punctually labor, heart and soul, to discover and administer the means of radical cure. This would be a contest—a glorious rivalry every way worthy of statesmen and patriots; for the gain of the victors would be the gain of all; and the blessed fruits of their victory would be enjoyed in the remotest extremities of our union. Not only would agriculture begin once more to smile; to fill our granaries with food for man and beast, and to adorn our fields with verdure; but every other trade, profession and calling would flourish to the utmost, until our dear country

assumed among the nations of the earth, that elevated rank, to which her boundless natural resources, and her wisdom and skill in their developement and application, would then so justly entitle her. Perhaps I shall be told that the government of the United States, ever since the year 1834, (better late than never,) has introduced, I will not say *smuggled*, into their general appropriation-law, one provision which appropriates and applies $5,000 a year to "*geological and mineralogical surveys and researches;*" and that *this* appropriation has been made every year since. Moreover, I may be told that the said government has employed a foreign gentleman of high geological reputation, with a salary that may absorb the whole of the aforesaid appropriation, to explore every hole, corner, and cave, of the United States, in search o curious shells, rare stones, and skeletons of antediluvian monsters, whose possible existence even would be doubted, but for the bones themselves. In other words, that the general government has ordered, at the expense of five thousand dollars per annum, a grand geological survey to be made of our whole country, beginning, (we know not why,) with the least inhabited parts of the same—as if a surgeon to cure his patient of a liver complaint, should fall to work upon his great toe—and afterwards, *perchance*, for nothing is said on that head, proceeding to places where these shell and skeleton-hunts might be more available. I may also be told that the legislature of our own state, always so zealous and fervid for her honor and glory, as not to be outdone by Congress, in a scheme so pregnant with both, had engaged a native of a sister state to perform a similar service for the Ancient Dominion, all which, in due season, is to work wonders for the much loved cause of agriculture. God grant it may be so! and that it *may*, I have no doubt, if the business be properly executed, which I have no right nor wish to question, for both Mr. Featherstonhaugh and Professor Rogers have high reputations as geologists, although it may well be doubted whether one in twenty of the appointers know any more of geology and its various uses, than they did of Hebrew and Sanscrit. But I must take the liberty, at least to conjecture, that the wonders will be worked after the adult portion of the present generation shall have been gathered to its ancestors. Do not, I pray you, infer from these remarks, that I undervalue geological researches, or that I oppose their being made at the expense of government. Far am I from any such vulgar prejudices; but notwithstanding I highly approve of them, I must express my thorough conviction, that *one* such agricultural survey made for Virginia, as our patriotic sister state (Massachusetts) has caused to be commenced for herself, would render our agriculture more service in one year after its publication, than the united labors of Mr. Featherstonhaugh and Professor Rogers can possibly effect for her in ten years, dating from the present day, and admitting them to be the greatest geologists who have ever yet lived. But the geological scheme had the advantage of causing its advocates to pass, at least, for scientific amateurs—if not for actual savans, while the project of an agricultural survey could elevate its friends to no higher, learned, or honorary distinction, than that of being good, honest, zealous, clod-hopping planters and farmers—now and then getting a strong scent of what is best for their own interest, but generally as blind as bats to all government measures best calculated to promote them.

Agriculturists, at least a vast majority of us, being chiefly concerned in managing well the earth's surface, and never having occasion, for this purpose, to go deeper than a common well, a marl pit, or a good ditch, will carry us, should, in my humble opinion, exercise our curiosity, *first and above all things*, in learning to practise the best ways and means to render that surface most productive in every necessary of life. But, unfortunately, this exercise, this pursuit, is generally considered a very humble, if not a low, servile business, much as the whole human race depends on its prosperity. It is a business rarely, if ever, noticed in our public journals, unless in such as are agricultural, being held quite too undignified in this all-aspiring age, for men ambitious, as so many thousands are, of great political distinction—of high public honors and emoluments. The greatest degree of skill and experience in our profession never, of itself, attracts fame, nor elevates the professor to posts of honor or profit. Its followers are generally looked down upon by men "in high places" as fit for little else but to be passive tools for them to work with, or as pack-horses to bear them, if fed only with a little flattery, to the highest towers of their ambition. No surprise therefore need be felt, however mortified and indignant some of us may be, that our agriculture should never yet have received any direct legislative encouragement. But until she *does receive it*, and in full measure too, I must believe that it is begining, as it were, at the wrong end, for any legislature first to pass laws for disembowelling the earth, either for stones, shells, bones, precious metals, or any thing else, not immediately available to multiply the means of human subsistence—that primary source of all the necessaries, comforts, and luxuries of life.

This disembowelling passion has produced results, at least in regard to the precious metals, which I venture to say, will greatly astonish all who are not apprised of the facts which I am now about to disclose to you. I give the statement from the session acts since 1832, having procured it from our first auditor's office. It is a most curious, but painful disclosure, and one which I would willingly avoid, were it not for my thorough conviction that it may not only prove a very instructive lesson to all who will read it right; but will convince our agricultural brethren, to a man, that our legislatures, for the last five years, not content utterly to neglect agriculture, have actually, (I will not say intentionally,) been busily engaged during a part of each session, in passing laws highly injurious to her interests. The effect has been produced by their holding out the strongest, most alluring temptations to withdraw from her much of the capital she so greatly needs, and to divert it to the most wild and hazardous speculations—thereby powerfully exciting that passion for inordinate gain, which is always sufficiently rash and pernicious of itself, without legislative encouragement, to stimulate its mischievous action. *This our law-markers have done* to a fatal extent, by chartering, since 1832, no less than seventy-six mining companies—thirty-seven of which were incorporated from the 13th of last January,

to the 30th of March! In several of those charters the object of pursuit is designated to be *gold* —in other *copper;* while in many of them the metallic character is not mentioned at all. Their aggregate capital is $5,795,000, with a right to increase it to $30,000,000, and to hold land amounting in the whole, to 197,800 acres—a territory larger than either out of several of our smallest counties.

But here follow the titles of each company—the date of its charter—its actual and possible capital, with the quantity of land each may hold.

Names of Companies.	When incorporated.	Capital not less than	Capital not more than	May hold acres of land.
Virginia,	10th March, 1832,	$300,000	$500,000	
Southwestern,	19th " "	100.000		
Mill Bank,	9th January, 1834,	100,000	500,000	5.000 Acres.
Rattle Snake,	" " "	100.000	500,000	5,000 "
Rappahannock,	" " "	100.000	500,000	5,000 "
Piedmont,	" " "	100,000	500,000	5,000 "
Union, (gold)	" " "	100,000	500,000	5,000 "
United States, (gold)	" " "	100,000	500,000	5,000 "
Culpeper, (gold)	" " "	100,000	500,000	5,000 "
Hunting Run,	7th February "	100,000	500,000	1,000 "
Forked Run,	17th " "	20,000	100.000	1,000 "
Vaucluse,	24th " "	100,000	500,000	1,000 "
Rivanna,	6th March, "	25,000	100,000	1,000 "
Hope,	5th " "	100,000	400.000	5,000 "
Liberty,	7th " "	100,000	500,000	5,000 "
Buckingham,	12th " "	20,000	100,000	1,000 "
Richmond,	3rd January, 1835,	30,000	100,000	5,000 "
Booker's (gold)	10th " "	100,000	150,000	2,000 "
Rosson,	13th " "	100,000	500,000	5,000 "
Louisa,	" " "	25,00	100,000	5,000 "
Namozine,	12th February, "	10,000	50,000	5,000 "
Greenwood, (gold)	19th " "	100,000	500,000	5,000 "
Franklin,	6th March, "	60,000	500,000	5,000 "
Orange Grove,	4th " "	100,000	500,000	5,000 "
Virginia, (Walton's)	2nd " "	100,000	500,000	5,000 "
Virginia and New England,	2nd " "	100,000	500,000	5,000 "
Gill's Mountain,	11th March, 1836,	50,000	500,000	5,000 "
Deep Run,	22nd December, 1835,	50,000	500,000	5,000 "
Big Bird, (gold)	17th March, 1836,	30,000	300,000	5.000 "
Goochland,	15th " "	50,000	300,000	5,000 "
Fluvanna,	3rd February "	60,000	500,000	5,000 "
Booker's, stock increased,	10th March, "		250,000	
Phœnix,	21st December, 1835,	50.000	500,000	5,000 "
Fredericksburg,	21st March, 1836,	50,000	500,000	5,000 "
Falmouth,	22nd December, 1835,	50,000	500,000	5,000 "
Stafford,	23rd February, 1836,	60,000	300,000	5,000 "
American,	17th March. "	100,000	500,000	5,000 "
New Hope,	16th " "	300,000	500,000	5,000 "
United States (copper)	12th " "	100,000	500,000	5,000 "
Blue Ridge (copper)	25 h February, "	50,000	100,000	5,000 "
Broad Run, (copper)	24th March, 1837,	50,000	500,000	2,000 "
Buckingham, (Slate River)	21st " "	100,000	500,000	1,000 "
Glade, (copper)	24th March, 1837,	50,000	250,000	2,900 "
Franklin,	5th February "	100,000	500,000	1,000 "
Richmond, increase,	30th March, "		500,000	
Alcinda, (gold)	13th January, "	100,000	500,000	5,000 "
Austin's, do.	24th March, "	25,000	100,000	1,000 "
Belmont, do.	22nd " "	50,000	300,000	1,000 "
Booker's, do.	25th " "	Charter amended,	500,000	1,000 "
				1,000 "
Cedar Farm, do.	25th February. "	5,000	100,000	1,000 "
Cedar Grove, do.	25th March, "	75,000	200,000	500 "
Columbian, do.	20th " "	100,000	300,000	1,000 "
Cromarty, do.	25th " "	50,000	500,000	1,000 "
Eades, do.	20th " "	100,000	500,000	500 "
Eagle, do.	25th February, "	50,000	300,000	1,000 "
Farmville, do.	24th March, "	50,000	300,000	1,000 "

(STATEMENT—CONTINUED.)

Fluvanna, do.	"	"	"	100,000	300,000	1,000 "
Gongo Socco, do.	20th	"	"	100,000	500,000	500 "
Goochland and Fluvanna, do.	30th	"	"	50,000	250,000	1,500 "
Good Hope, do	20th	February,	"	50,000	500,000	1,000 "
Green Mountain, do.	24th	March,	"	50,000	500,000	1,000 "
Groom's, do.	30th	"	"	200,000	500,000	1,000 "
Independent, do.	24th	"	"	100,000	500,000	400 "
James River, do.	"	"	"	50,000	500,000	500 "
Little Bird, do.	"	"	"	100,000	500,000	400 "
McGehee's, do.	"	"	"	100,000	500,000	1,000 "
Mint, do.	"	"	"	50,000	500,000	1,000 "
Monteagle, do.	"	"	"	100,000	500,000	200 "
New York, do.	28th	"	"	50,000	500,000	1,000 "
Omohundro, do.	24th	March,	"	100,000	500,000	300 "
Peru Ridge, do.	"	"	"	100,000	500,000	500 "
Rapin Ann, do.	25th	"	"	50,000	500,000	1,000 "
Shaw's do.	18th	"	"	20,000	50,000	1,000 "
Somerville, do.	27th	"	"	100,000	500,000	500 "
Spring Hill, do.	24th	"	"	50·000	500,000	1,000 "
Walton's New, do.	20th	"	"	100,000	500,000	1,000 "
76 *Companies.*		TOTALS.		$5,795,000	$20,000,000	197,800 Acres.

NOTE.—An act prescribing general regulations for the incorporation of Mining Companies, passed 12th February, 1837.

Some persons possibly may view the foregoing statement as a decissive proof of the enterprise and sagacity of our citizens in cutting out new roads to wealth, and of the patriotic wisdom of our legislatures, for five years past, in stimulating them to the intoxicating pursuit; whilst others, too inert, or too old and dull, to keep up with our grand march of mind, may behold in it evidence, clear as proofs from holy writ, of a most morbid state of public sentiment—embracing both the *governors* and the *governed*. To decide between such widely variant opinions, I shall leave to wiser heads than my own, and will only ask of my agricultural brethren to take the matter into their most serious consideration, as one in which all their best interests are deeply and dangerously concerned. Should there still be some who have not yet gone too deep under ground to return, willingly, once more to work on the top of it, they will pardon me, I hope, for expressing my firm belief that they will find their old acquaintance, the ploughs, hoes, spades, and axes of our profession, much safer reliances for comfortable living, than the stone-crushers, forcing pumps, earth-sifters, and smelting-furnaces, with the use of which they have lately been laboring so hard to make themselves familiar. The former are friends, that since the days of their invention, many centuries ago, have never yet failed any man who would use them with skill, industry and perseverance; whereas the latter are the implements and machines of a most fascinating lottery, in the various schemes of which there are many wherein *all the tickets prove to be blanks*, although *all* are sold as *prizes;* while, in the rest, the number of blanks can never be certainly known, until it is entirely too late to count.

In some of these seventy-six-hunting-clubs, (as they may properly be called,) the parties seem to have taken for their guide the old sportsman's proverb, so cheering to young huntsmen, which tells us that—"*where you are least aware, there starts the hare.*" But if report say true, in many of these clubs no game has yet been started, nor even a solitary trail struck, unless it be a very cold one, although their hunting grounds altogether comprise several thousand square miles, and the huntsmen have been quite as ardent and active as Dr. Douterswivel himself is represented in Scott's 'Antiquary,' to have been, when the old beggar, Edie Ochiltree, humbugged him into digging among the graves and ruins of St. Ruth's Priory, for gold and silver, which alas! was not to be found.

But to speak seriously, I know not how this matter may strike others; to me the tabular statement just presented, is a most appalling expose of the present condition of a large, a very large portion of our community. We seem to be verging very near, if we have not already reached a state resembling that of worn-out sensualists, who feel as if they could hardly support existence, without continual resort to the most stimulating and exciting drinks, viands and conditments, that the master caterers for morbid appetites can supply; and what is still worse, to be insensible of our condition, or utterly reckless of its fatal consequences. It is, I think, perfectly manifest, that there is now raging among us, and with rapidly increasing virulence, a highly dangerous spirit of speculation—dangerous both in a moral and political view; that it *has* withdrawn, and is *still* withdrawing from most of the regular trades and callings, essential in providing the necessaries and comforts of life, an enormous capital, much of which bids fair to be entirely wasted: and that thereby it has inflicted a deep and lasting wound on all the best interests of the state, but on none more than on agriculture. It is moreover, a truly gambling spirit, and produces near the same results; for it unfits a man, if indulged only a short time, for every steady, regular profession, by making all of them appear "*weary, stale, flat and unprofitable.*" How it may end, it is fearful to anticipate, especially when viewed in combination with that maddening party-spirit which treats all national concerns as matters of far inferior interest to the desperate, the deadly struggle for party supremacy.

As regards the speculation mania in our state, I can not even conjecture what could have been either the motives or the policy of our legislators for encouraging it; but it requires no great prophetic skill to foresee, that, should they continue to do so, only a few years more, at the rate of 37 enactments per session—not only will our agriculture suffer in her very heart's core—but the ruin of thousands must inevitably follow. Our suicidal policy, in regard to our own class, which has been desolating Virginia, at a ratio constantly increasing, for some years past, has been pursued from the infancy of our government to the present day; but has never been so deeply—so sorely felt as in these times. Let me endeavor still further to illustrate the causes. Mr. Jefferson's grand test-question for choosing our public functionaries, "*is he honest, is he fit*?" has remained nearly a dead letter in his memorable inaugural address, ever since it was uttered. In lieu of so admirable a standard, we have adopted, at least virtually, if not in so many words, the query "*is he willing, is he able and ready*" to do the political party-work required of him? This I affirm to be more or less true of *all* parties, and if it were not so, why is it that in every oral or newspaper notice of the candidates for our suffrages, we rarely ever see or hear any other recommendation of them, than that they are Mr. A's, or Mr. B's, or Mr. some other body's man, as if they were the actual personal property of these individuals. What is this but a most degrading proof that *we* who are to vote for them, consider this very circumstance the best possible evidence of their fitness for our chief purposes, which are not so much to legislate for the great interests of the state, as to worship the same political idol that we do, and to aid in pulling down the idol of the party opposed to us? That we should so often get men of talents, knowledge and virtue, to represent us, is truly wonderful, considering how very few of the constituent body make it an indespensable object to secure such to serve them.

Some possibly may think I indulge in too great freedom of speech; but the time has come, my friends, when it would be treachery to our country —nay, a base, dastardly dereliction of duty both to her and to ourselves—were we to mince matters in speaking of the various causes which impede her prosperity, and are so rapidly accelerating her decline in the relative scale of national importance; causes which, although all must ultimately feel, press most heavily, at first, upon the agricultural interest. If we are to be constantly indebted to other states and countries, not only for the most common articles of necessity and comfort in household economy, but for most of our agricultural implements, and tools of the handicraft callings—nay, even for a large portion of our daily bread—if most of us prefer political prize-fighting to eating, we dissenters had better, (rather than be silent,) abandon, at once, our dearly beloved state, to become again the haunt of the wild beasts of the forests, and an everlasting reproach to her recreant children, who prefer getting drunk with the alcohol of party-spirit, to the political salvation of sixteen or seventeen millions of their fellow creatures. No—let none of us forbear to denounce, at every hazard, the causes of our present degradation, nor cease to summon to the rescue, every friend to Virginia, who still clings to her, as their first—their best—their last hope of happiness, so far as *that* depends upon the homes of our infancy, and upon *all* that renders the ties of country and kindred so inexpressibly dear to our hearts.

The time has come, and is now admonishing us, owners and cultivators of the Virginia soil, with a light as vivid as that of the noon-day sun, that if self-preservation be worth regarding, we *must*—aye, indispensably, *must* make the promotion of our own state-interests, (at the head of which stands agriculture,) the great object of our most strenuous, unceasing exertions. To do this effectually, we must forever abandon *party-politics;* for it is morally as well as physically impossible, that the two can work together. Where any competion is permitted to exist at all, the ascendency and constantly augmenting influence of the latter is just as certain as death itself; for in almost every recorded case, in the annals of the world, of contests between cunning selfishness, whose most powerful weapon is party-spirit, and pure patriotism, the former has gained the victory. Choose ye therefore, between them: continue but a few years more to cherish and hug to your bosoms this fatal, this most deadly curse, as you so long have done, and you may bid adieu, forever, to all hopes of restoring good old Virginia to her former prosperity, or of saving our own class from the ruin which threatens us. Without identity of purpose, and union of effort, among its members, no class of society ever yet prospered—more especially where legislative aid was essential to their prosperity; for that can never be obtained but by combined exertion on their part.

It is now, I think, some two years ago, since I ventured, earnestly, but respectfully, to suggest to you, that for all the long neglect by our government of our petitions, we agriculturists had a plain, simple remedy in our own hands, which nothing was easier than to apply. This was either unanimously to instruct our representatives, or to require pledges from them beforehand, to use their utmost efforts in behalf of agriculture. Yet not a single instance have I yet heard of any such instruction—any such requirement. The only demand made of any candidate, that has reached my ears, was—"*are you a staunch administration man, or a staunch anti*?" by which is meant, a man who will always go with his party whether he thinks it right or wrong—*that* being the grand desideratum—the all comprehensive endowment for wise and patriotic legislation!

We may possibly go on somewhat longer in our asinine conflicts for party victories, and when we happen to gain them, may continue our idiotic chuckling at our success; for in spite of this mad course, to which most of us seem willing to sacrifice every thing else, some men will get into each legislature every way capable of rendering their country all the service she needs. But they will never constitute the majority of the body, as they might, and ought to do; nor will they possess influence enough to counteract, or even materially to check the ignorance and arbitrary demagogue-spirit which so frequently and fatally predominate in a party-legislature. Poor old Virginia! deeply, most deeply is she to be pitied by all who love her in sincerity; for the day seems not very distant, unless her sons come to their senses, when she will scarcely have inhabitants enough left to tell the passing stranger the tale of her sufferings,

from so long persisting to choose her law-givers for their powers in political party battles—for their zeal, activity and skill in aiding to make and unmake Presidents and Vice Presidents of the United States, rather than their statesman-like qualifications, and devotion to all the true, the vital interests of their country.

If any thing can possibly rouse us agriculturists to obtain legislative aid for agriculture, it will, it must, be the enormous and annually increasing importations of foreign grain. Can any man in his senses, for a moment believe, that such importations could ever have been made, had our government given similar encouragement to *our* husbandry, to that which has been given to *theirs* by the foreign countries from which all this grain has been imported? Could it be thought even a possible event—if only a moiety of the millions of dollars which this grain has cost, (millions already consumed and utterly lost in the form of food for man and beast,) had been permanently invested in some or all the various means of improving our husbandry. No—it is altogether incredible; even should we make every reasonable deduction from the general amount of our agricultural products, on account of bad seasons, and every other injury put together—always saving and excepting the legislators of the land, who heretofore have proved the greatest of all.

But a difficulty, it seems, exists in their becoming friends, whenever they legislate for the United States. So say some of the hair-splitting constructionists of our federal constitution: gentlemen, who, in construing this instrument, appear to labor under the same obliquity of mental vision, that the religious fanatic would in construing his bible, who should refuse, if his house was burning, to extinguish the flames, because it was—Sunday! even although his wife, his children and himself were to perish in the conflagration. These constructionists have found out that the constitution gives no power to legislate directly for agriculture! But they have also discovered, by the same lynx-eyed sagacity, that laws may constitutionally be passed for the benefit of her sister, commerce, who can't live without her! Witness their charts of our coasts and harbors—their break-waters, light-boats, light-houses—dry-docks, and navy-yards—all made under acts of Congress. Now would it not occur to any man, whose common sense had not been entirely sophisticated by political abstractions, utterly inapplicable to existing circumstances—that if *water* could be constitutionally surveyed for the benefit of commerce—*land* might be constitutionally surveyed for the benefit of agriculture? And that if the constitution did not forbid the construction of any of the above enumerated aids to the former, *a fortiori*, it could not fairly be so construed as to prohibit the establishment of boards of agriculture, or agricultural societies, schools and experimental farms, as aids to our husbandry; especially, since in every mention any where made, of the three great sources of national prosperity, agriculture always ranks first—always stands pre-eminent before commerce and manufactures, as her prosperity is primarily and indespensably necessary to *theirs*. What makes the matter still more surprising to plain understandings, is, that our general government, (so says the secretary at war,) is speedily to commence teaching agriculture to the Sioux, the Sacs, the Foxes, and Winebago Indians, although they can not conscientiously spend a solitary cent in teaching it to our fellow citizens, many of whom, alas! are nearly as ignorant of it as the poor Indians themselves.

Surely this federal constitution of ours deserves all the praise that has ever been bestowed upon it, and more; for among its numerous claims to our admiration, it has one which is truly marvellous, although as yet, I believe, unnoticed. No india-rubber, not even air itself, has been found more susceptible of expansion. But lo! and behold! should contraction or compression seem needful, there is scarcely a solitary essential power of government for the exercise of which a permissory clause can any where be found by our conscientious interpreters of this most extraordinary instrument. Ask of our legislators any thing whatever, (especially if you are agriculturists,) which they happen not to be in the humor to grant, and the immediate cry is—"the constitution—the constitution! we have sworn to preserve, and therefore can never violate the constitution!"—This is at once, the shortest and safest possible answer to all unpalatable petitions; for it risks the loss of little or no popularity—a tender conscience in a representative being the jewel which we hold above all praise—and it stops, at the threshhold, all remonstrance—all reproof. And some *such* answer, my friends, you may feel perfectly assured, we shall always receive, whenever we ask for legislative aid, until we take some much more effectual means, than we ever yet have done, to secure for our claims, both respect and compliance. These means may all be comprehended in a very few words—*the viva voce vote and the ballot box;* which (thank God,) can yet remedy, under our institutions, all ignorance—all neglect—all wilful misgovernment.

To some of my auditors, perhaps, such of my remarks as are of a political character, may appear to be both irrelevant and extra-official. Should any think so, permit me, before I conclude, to say a few words in self-justification, although I acknowledge, that to plead before we are accused, is strong presumptive evidence of guilt. In defending myself against the first anticipated objection, I beg leave to state, that nothing which operates injuriously upon our interests should ever be suffered to pass unnoticed, on such occasions as the present. To the second objection, I would reply, that the prosperity of agriculture, as well as of commerce and manufactures, does, and must, necessarily, depend greatly on the general policy and legislation of government; in fact, unless all three prosper, so far as the laws of our own country can promote and secure their prosperity, government may justly be censured for the failure. If this be true, which none, I think, can deny, it manifestly follows that agriculturists, like every other class of citizens, have the right, and owe it to themselves, to complain, whenever they believe themselves to be aggrieved, either by the neglect or active hostility of their rulers. The latter ought not to be supposed possible, were it not for innumerable cases which might be cited in the history of all governments, not excepting our own, to prove the fact beyond denial. And it matters not much whether the hostility or neglect proceed from ignorance or design, since in either case, the exercise of the right by the ag-

grieved parties, to complain, to remonstrate, or to censure, as it may seem best to them, appears to be under our constitution, incontrovertible. Such having been always my opinion, I have acted upon it from the commencement of our society to the present day; and as far as I can recollect, without any disapprobation on your part. All that can justly be expected or required of us, is to abstain, in our corporate capacity, from *party politics*. This I have always endeavored to do, as your presiding officer; and I am guiltless—unless indeed, it may be called *party politics* to enumerate, whenever I address you, our chief grievances, and to point out, as well as I can, the means of redress. Forbearance on these subjects I never *can* nor *will* practise so long as you honor me with my present office.

And now, my friends, I must bid you all a cordial farewell. Should we live to meet again twelve months hence, may one subject of our mutual congratulations be the determination, both of our own and the general government, that legislative aid is quite as essential to the prosperity of our national agriculture, as legislative wisdom and virtue are to our national character and happiness.

From the Maine Farmer.

MILKING COWS.

Mr. Holmes—I have a very good cow which I allowed to go without being milked, two months previous to the time of her last calving but one; she had not been kept very high, and had nothing but hay given her.

This winter I gave her roots and plenty of hay, and she gave milk nobly. I allowed her to be milked until within three weeks of her calving, twice a day, when she gave three quarts per day. I then permitted her to be milked only once a day, for two or three days, and no more, until she calved. Being highly fed and in fine flesh, I expected a large parcel of milk from her. In this I have been disappointed. She appeared to do well, when she calved; has been healthy and hearty since; she has had half a bushel of roots per day, with what hay she needs, and yet she gives but a small quantity of milk.

I now believe it owing to her being milked so near the time of her calving; as she has been kept better this season than common. At the time, I supposed it would have no deleterious effect. If I am right, let this be a caution to all who have cows, not to milk them too near the time of calving—if I am wrong, I desire to be set right, by some of your able correspondents. Please, Mr. Editor, give us your ideas on so practical an affair. I now believe that as milk is blood, before it enters the udder or bag, it should be left in the system to accumulate to benefit their young, and enlarge the vessels, &c.; and that he who milks his cow too near the time of calving, "withholds more than is meet," which tends to poverty, as Solomon says.

Let it not be inferred that I think a cow which goes dry half the year, or for a long time, of equal value with one that we can milk till the proper time to cease milking, which I think is seven or eight weeks before they are to calve—calculating forty weeks for them to go with their young, which is the usual time. N. O.

Wayne, December, 1837.

N. B. Will some one answer the following query, through the 'Farmer?" If a cow is milked up to the time of her calving, does that fact of necessity increase the quantity of her milk, or diminish it?

From the Horticultural Register.

ON THE CULTIVATION OF ASPARAGUS.

By Samuel Pond, of Cambridgeport.

We recommend to our readers the following communication of Mr. Pond, which we are happy to give a place in the 'Register,' as we think his remarks are well calculated to benefit those who are desirous of forming new asparagus beds, or renewing old ones. While some horticulturists give their attention to one production, and make improvement in that particular branch of culture, the interest or fancy of another person leads him to something of a different description. Mr. Pond has given his attention in a particular manner to the culture of asparagus, and from the success which has attended his efforts, if we may judge from the productions he has presented to the public from time to time, and which we ourselves have witnessed, should infer that he has been eminently successful in the cultivation of this delicious vegetable.—Ed. Hort. Reg.

The cultivation of asparagus, although so general, is, by no means, as well understood as it should be. Like many other vegetables, which have for years been cultivated, and which almost every gardener thinks he already raises to perfection and needs no further information in relation to their growth, it can still be wonderfully improved in its mode of cultivation. The immense quantity which is produced in this vicinity, for the market, and its superiority to that of former years, is a convincing proof, that its cultivation is now much better understood than heretofore, and it is to be hoped that it will still continue to be grown of larger size and more excellent quality. In private gardens, in particular, some fine specimens have been produced within the last two or three years, and, with little more care and expense, the market gardener may as easily supply his customers with this estimable vegetable in equal perfection. There are several kinds of asparagus some of which have been lately introduced, and have not yet become very well known. That which I have grown, and which I have proved to be of most excellent quality as well as of monstrous size, is called the giant asparagus. It is as yet but little known, and consequently, not very extensively cultivated. But so superior is it to the old kinds generally grown, and of which hundreds of plantations now exist, that it must take their place soon. Some cultivators do not like to destroy fruitful beds because the kind is rather inferior; yet I have no doubt but they would be more amply repaid in the end, if they were to make new plantations, and as soon as they came into bearing, entirely destroy the old ones. Its large size and fine appearance together with its tenderness and flavor, recommend it to the notice of every market gardener, who is desirous of any emulation for his productions, and to every gentleman and amateur who is ambitious of supplying his table with the

most excellent kind. There has been considerable written upon the culture of asparagus, and there are various opinions respecting the best method of cultivation. But leaving the reader to choose which system he pleases, I proceed to detail the method I have adopted, and which I have found to be completely successful. It is difficult to persuade those who have for years continued to grow any kind of plants to tolerable perfection to adopt new modes with the hopes of improving upon the long-trodden path. In the month of April or May, select a spot of ground sufficiently large to plant the number of roots intended. If the plantation is to be large, and intended for supplying the market, the ground should be ploughed to a good depth; if for a common kitchen garden it should be trenched to the depth of fourteen inches. Make the surface of the bed level, after this operation is performed, then proceed to mark places to dig the trenches for the roots; they should be two and a half feet apart; stretch a line the whole length of the bed: draw the next two and a half from this, and so on to the whole width. Then proceed to throw out the soil twelve inches wide and twelve inches deep, laying it up in ridges between each trench; after this is done, throw in three or four inches of manure, level the same, and add about one inch of soil on the surface scraped from the sides of the trenches; level this also, and all is ready for planting. There are different opinions respecting the age at which roots should be planted; some gardeners prefer one-year old roots, some two, and some even three, when it is desired to have beds ready for cutting as soon as possible set out; but I am doubtful whether much, if any thing, is gained by this; for my own planting, I always prefer those of two years of age; and rather than set out older ones, I would have those of only one year; select such only as have good fibres and a fine bold crown. In setting out, place them six inches apart, and lay out the fibres in regular order, and not tumble them together, as is too often done to the great injury of the plants. Much of their future success I attribute to the care given in setting out. When all are planted, cover them with about an inch of soil, and the work is all finished. The plants throughout the summer must be kept clear of weeds, and occasionally hoed, and by these operations and the summer rains, the trenches will by October be filled up as level as the bed was before setting out the roots. The practice adopted by most, if not all growers of this vegetable, is to set out the plants in deep trenches, and cover them at once six or eight, and in some instances twelve inches deep. Nothing can be more injurious than this; for a great part of the roots seldom make shoots strong enough to force their way through this depth of soil, and consequently perish; or if they come up, they are weak and small, and never afterwards attain to any size. It is an old system, and, like that of growing celery, now generally exploded, it should be likewise. In the method I have adopted, the roots have but a slight covering of earth when planted, and the young shoots come forward very fast; as they increase in vigor, little more is added, till, by the assistance of the heavy summer rains, which wash the soil from the ridges into the trenches, they are completely covered. Scarcely a root has ever failed to grow. Upon the approach of cold weather, and after the tops have been killed by frost, they should be cut down even with the ground and carried off: the bed should then be covered with two or three inches of horse manure, which should remain on until spring, when it must be forked into the surface of the bed.

In doing this, be careful not to injure the crowns of the roots. Just before the shoots make their appearance, give the bed a good raking, which will destroy the weeds that are starting to grow. It is a bad practice to plant asparagus beds with radishes, lettuces, peppergrass, &c. as they exhaust the goodness of the soil. The first year after planting, a few of the strongest shoots may be cut, but very sparingly, as the roots will be all the better afterwards. Continue to pursue the same system of culture every year, and the roots will rapidly increase in vigor. The soil that asparagus seems most to delight in, is a light and rich one, neither too wet nor too dry; when the soil is shallow, the trenches must not be dug so deep as above recommended. The manure I made use of was fresh from the hog-pen, and somewhat strawy; but I presume any good manure would answer equally as well. The arparagus is a marine plant, and a light dressing of marsh mud in the fall or spring seems to increase the growth of the plants. I would recommend it when it can be easily obtained. Beds prepared in this manner and yearly attended to, will last for a great length of time, and the produce will be of superior quality. When I planted out my bed, I preferred plants of one year's growth to older ones; they can be set out with more care, for this kind will, when spread on the bottom of the trench, require the trench to be from ten to twelve inches wide on the bottom, so as to spread your roots each way; I have seen beds set of three year old plants from which enough could not be obtained to pay the setting out. When the roots are so large, it is impossible to set them out; even if they were ever so good, the old roots decay, and fibres start anew. In the following spring after setting my bed of plants of one year old, I cut grass of a good size; since then I have frequently had six spears of the common length, which would weigh one pound. I have occasionally exhibited specimens from my bed at the Massachusetts Horticultural Society's room.

SAMUEL POND.

Cambridgeport, Dec. 25th, 1837.

From the Horticultural Register.

MANAGEMENT OF PLANTS AND FLOWERS IN ROOMS.

By EDWARD SAYERS.

The present season is perhaps the most precarious period in the management of choice greenhouse plants and flowers in rooms and small green-houses; as plants at this time are shedding their leaves, and generally in a *dormant* state; therefore, they do not require either too much *heat* or *water*, which in many cases starts the growth of soft-wooded plants in a feeble state, as the geranium, daphne and the like: on the contrary, if plants are kept too *dry*, which in many cases happens in warm rooms, the leaves drop off, and contract a feeble habit, and the bark shrivels up on the young branches.

The best method and criterion is a medium, namely, the temperature should be, if possible, regular from forty o fifty-five deg.; the soil about the plant should be kept moderately moist, too much water saturates the earth in pots and generally rots the roots; if plants are kept too dry, the roots contract and naturally become weak, and are incapable afterwards of extracting whatever nutriment may be applied in a free manner to nourish them. The best criterion to water plants is to give a little at a time, as the earth dries in the *pot;* such pots as are very moist and saturated, should be dried by working up the top of the pot with a fork, or other instrument. All dead and decaying leaves should be, at all times, taken from the plants as they appear: dead leaves often contain many insects, therefore, should be removed. The plants should also be often examined, and cleansed of any scaly or other insects that appear on the leaves, with a sponge and warm soap suds, made from soft soap. Every opportunity should be taken to admit air of a fine, mild day, and they should be so placed, if possible, as to have the sun in the forenoon and middle part of the day. A semicircular stage, with running castors, is the best, which can be moved, to any part of the room, at pleasure.

At this season of the year plants are much refreshed by adding a little fresh, rich, earth on the top of the pot.

ON THE ALLEGED CHANGE OF CLIMATE IN THIS REGION.

To the Editor of the Farmers' Register.

January 14, 1838.

If it is not presumptuous in a person whose station and acquirements are as humble as mine, I would beg leave to offer a few remarks on the 'Address' of Joseph E. Muse, President to the Dorchester (Md.) Agricultural Society, as reported in the No. of the Register of the 15th December.

This address cannot fail to be read with general interest: the introductory remarks are beautiful, and for the occasion highly appropriate; the whole evinces the classic scholar, and the man of science, with a tolerable spice of the practical and experimental farmer. The deduction however, which he has drawn from his preceding philosophical reasoning, and when he says "it is deducible from causes obviously still in operation, that a comparatively short period, perhaps half a century or little more, will find the wheat plant flourishing only in the most southern sections of our vast empire, and another period still longer, may in all possibility, cancel it from the catalogue of vegetable life" is in my humble opinion liable to doubt.

That our planet has, in former periods, undergone repeated and great revolutions, the scientific researches of geologists leave not a doubt: but so far as their researches have yet gone, I believe a fossil bone of the human species has not yet been discovered; from which it is natural to infer, that the revolutions on the surface of our planet, have all been anterior to, and probably only preparatory to render it a fit abode for the then future lords of creation. The more recent geological formations certainly display, in the organic remains, many species of animals and vegetables nearly allied, or identical, with living and existing species; there are now upwards of fifty thousand existing species of plants described by botanists, and the number of fossil species did not recently I believe, much exceed five hundred; but though these five hundred known species of fossil plants, contain some of the orders of each class now existing, it is certainly remarkable that none of the grasses have yet been found among them, an order which certainly contributes more to the comfort of man than any other. That the earth has also, since the probable and comparatively recent existence of the human species, undergone several changes and modifications, cannot be doubted; some of these, such as the immense depositions of alluvial matter, have been of a gradual and nearly imperceptible nature; others, however, have been violent and instantaneous, giving indubitable proof, that the earth yet contains elements capable of producing awful revolutions. That these changes on the surface of the earth, may partially affect the temperature of climates, is highly probable; but I much doubt whether there is any satisfactory evidence, that the mean temperature of our climates are undergoing a permanently gradual and lowering change. Various operations on the surface of the earth, such as felling down large tracts of forest, will doubtless, locally affect the temperature of a climate, and thereby partially affect the production of many species of plants; but useful plants in general, when under the judicious and fostering care of men, have a wonderful facility in adapting themselves to variations of climate, and the extensive regions of the earth and extreme variations of climate, in which the several varieties of wheat are cultivated, prove with what encouraging facility it adapts itself to such changes; but however easily it may adapt itself to changes of climate, experience has proved that it requires a fit soil and good culture; and to the want of this latter, rather than to the want of a suitable climate, with respectful deference to Dr. Muse, I should be inclined to attribute the very general failure of the wheat crops of late years, in Maryland, Virginia, and other sections of the country.

Wheat has been cultivated on the continent of Europe and the British isles, &c. in high latitudes, for many centuries, or more probably as coeval with the first dawnings of civilization itself; and at no period of time has it been more successfully or largely cultivated than at the present, and within a comparatively recent period has its production been more than doubled, in many parts, both of continental Europe and Great Britain. At the time of the revolution in the latter country, (1689) there were only estimated to be 1 ,000,000 bushels of wheat grown, being about three bushels to each individual of the then population. In 1828, it was estimated that there were over 100,000,000 bushels of wheat grown, giving about seven bushels annually to each of the population; and since then, I believe there has been a considerably further increase. I am well aware of the difference of climate that exists on the two continents in the same parallel; but I do believe that the soil and climate of this section of country naturally is as well, if not better adapted to the full developement and profitable culture of that all-important staple, as is in any country in Europe. If this and other sections of this country will not now produce wheat as formerly, I would, with all due deference, say

to farmers—"Depart at once from antiquated and ruinous usages; for a generally improvident suicidal mode of cultivation, adopt an improving and ameliorating one; restore to the soil the constituents of fertility, of which, long-continued and scourging cropping have deprived it; apply, with a liberality commensurate with former unnatural exactions, a supply of putrescent, and a judicious application of your inexhaustible stores of calcareous manures, and I have no doubt the grateful soil will again yield you a liberal and remunerating crop of wheat for many generations to come."

If the temperature of this country is injuriously lowered, by having been so improvidently denuded of its original forests, the fact ought to prove a warning voice to landholders, carefully to husband what remains, under the present forest exteminating system. The want of wood even for the ordinary purposes of a farm, will at no remote period be seriously felt; and its past and present wanton destruction deeply regreted. Many farms now suffer from this cause, and many suffer from the want of that warmth and shelter which clumps and belts of trees afford. In such cases young growths should be carefully nursed and protected, or even artificial plantings adopted. A general improved system of farming, would of necessity include the properly draining of wet and moist lands, together with the many swamps and river marshes which so largely abound. These important and desirable improvements would also tend much to improve the climate.

Should the theory of Dr. Muse prove true, the forward prospects of the farmer, and community at large, are certainly not very encouraging, while there is the prospect of nature compelling a shortly succeeding generation of our descendants to part from the wholesome and nutritious wheaten loaf, and to accept in stead, probably something like the cortical loaf of the Laplander; for if this climate should become of too low a temperature for the production of wheat, the loss of this main staff of life, like every other misfortune, would not come single-handed. The same cause would, doubtless, produce a similar effect on other life-supporting plants, many of which are more susceptible of a change of climate than wheat; and then this beautiful and highly-favored country would, within the lapse of a few generations, become no better nor more cheering than the dreary polar regions. I am, at least, unwilling to believe that such is the tendency of the working, or the destined course, of nature; one thing, however, I do believe, that if the same generally ruinous system of agriculture is pursued for fifty years more, that not only will much of the soil of this section of country, at the end of that period, be incapable of producing wheat, but also of raising a scanty produce of any other grain. The general falling off of the produce of corn, is, I believe, no less remarkable and striking than that of wheat. A general belief in this theory would not only afford a powerful inducement to every farmer, in this or higher latitudes, to emigrate to a southern and more genial clime as speedily as possible, (that these desolating changes which he believes are approaching, may be the longer reaching him,) but would also have a tendency to damp the energies of many farmers from making necessary and important improvements so essential to their present and future welfare.

Without taking into account the main inducement which Dr. Muse has held forth, for the introduction of grains, &c., from a higher latitude, I believe such a change would, in many respects, be advantageous. Changes of seed even, from one farm to another, or an occasional change of variety, experience has often proved to be beneficial. There are, however, many instances of useful plants being acclimated from lower to higher latitudes with success. The successful culture of tobacco from the island of Cuba, by Dr. Muse himself, is a proof of this; and though he does not appear to have tried its acclimation by re-produing from seeds grown in Maryland, the success which he says has attended its culture, would seem to warrant the probability that it might be acclimated.

Dr. Muse's remarks on the usual practice of pulling fodder and cutting tops from corn, are I believe, both philosophically and practically true, though in practice few are willing to admit it.

To the just "tribute of respect and acknowledgement," paid to the author of the 'Essay on Calcareous Manures,' and editor of the 'Register,' every unprejudiced reader will cordially respond. It is only to be regretted, that works so eminently calculated for conferring important benefits, and conveying indispensably useful information to the practical farmer, should be so seldom found in the hands of those for whose benefit they are evidently more immediately intended.

With the concluding portions of the address, few I believe would materially dissent, though slight shades of difference of opinion and practice may exist.

Excuse my occupying so much of your patience with matter probably so little relevant to the grand object of your invaluable periodical.

Respectfully, &c.,

N. L.

THE INCREASING USE OF LEAVES FOR MANURE.

[The following testimony is furnished by a highly respectable gentleman, and also a good farmer; and it places in a striking point of view the great importance to agriculture of the making known even a single useful agricultural fact, that is sustained by the favorable judgment and experience of a farmer of high reputation. The mere statement of Mr. Sampson's practice and success, may induce hundreds to follow his example, and may add, in time, millions to the products of agriculture in Virginia. We had before been gratified by hearing the opinion expressed by farmers, whose opinions are worthy of high respect, that the report on Mr. Sampson's farm alone was well worth a year's subscription to this journal. We may venture to express concurrence in that opinion, inasmuch as the value of the article consists in the matter presented, and not in the manner of the description.]

Orange, Jan. 17th, 1838.

Dear Sir—Owing to my leaving Petersburg some days sooner than I purposed when I saw you, I was prevented from giving you the statement you requested of me, of what I witnessed in counties in my immediate vicinity, as well as in those

through which I travelled in my way to your town.

Previous to leaving home for Petersburg, I had occasion to visit Prince William, Stafford, Culpeper and Fauquier. In these counties I saw leaves used, in some way or other, as litter for stables, farm pens, hog styes, &c. From this, I passed through Spottsylvania, Carolne, Hanover, Louisa, Goochland and Chesterfield. In many of these counties the farmers appeared to have commenced the collection of leaves upon a large scale. In Goochland, they were more extensively used. Those with whom I conversed upon the subject, in almost every instance, were induced to the use of leaves, from hearing of or reading in the 'Farmers' Register,' your account of Mr. Sampson's mode of applying them, and the results obtained in the improvement of the soil. Some persons may think this ado about leaves a small matter; if so, let them use leaves in their stables, farm pens, hog styes, &c., for the better comfort of stock—carrying as many as opportunity may permit to the field intended for oats; spread them, and those who have no plaster, may substitute two bushels of ashes per acre; and if they are not convinced of their great acquisition, as increasing their quantum of valuable manure, I will agree that this is "much ado about nothing."

S.

MISCELLANEOUS REMARKS ON PRACTICAL AGRICULTURE.

[Continued from No. 9.]

Deep ploughing.

To the Editor of the Farmers' Register.

We read that when an ancient orator was asked what he considered the first great ingredient of oratory, his answer was, *action*. What the second? *action*. What the third? *action*. And if the most distinguished agriculturalist in the valley or other limestone regions of our country had three interrogations propounded to him, as to the first, second, and third chief element of success in tillage, I have no doubt, his consecutive responses might be *deep ploughing! deep ploughing!! deep ploughing!!!*

There is certainly more reason and truth in the dogma of the agriculturist, than in that of the distinguished Athenian. One may be traced to the effect of imposition upon the credulity, the imagination, or the vitiated taste of mankind; the other is a powerful physical cause, sustained by reason, argument and experience, conducting to important, useful results.

In the valley of Virginia, and more especially those regions of country where I am most familiar, I have never known a long-continued system of deep ploughing, which was not followed by signal benefit to the farmer. I care not what the character of the land is, be it the highest grade of fertility, or the lowest of sterility, I feel a confidence, which may be pronounced presumptuous, though confirmed by experience, of the paramount advantage of deep ploughing. Having passed through near two thirds of the states of the union, and been no careless observer of the different soils and modes of cultivation, every where I find the best farmers lay the most stress upon the importance of deep tillage; and thus my experience has ever been fortified by observation, that in husbandry, it is indispensable to set your coulter deep.

There is a communication in the September number of the 'Register,' from General Cocke of Fluvanna on this subject. I have not the pleasure of a personal acquaintance with that gentleman, but am disposed to attach much weight to his opinions, although I can not make the same discriminations with respect to soils which he does. He acknowledges the importance of deep ploughing in general, but thinks that upon the light sandy lands of the lower country, which he formerly cultivated, he inflicted lasting injury by ploughing deep. Did he continue the system long? By frequent turnings, was the subsoil of clay thoroughly incorporated with the upper soil? Did he think, or do any of our low-land agriculturists think, that by penetrating below the clay, the sand is exposed, and injury to the soil results? *Credat Judeas Apella—non ego.* However, sir, I may go too far. Great respect is due to the experience of so distinguished and intelligent a farmer as General Cocke, and I admit if there be an exception to a system which ensures so much benefit generally, it must be in those soils where the under stratum of clay is based upon a deep, porous sand. If the upper soil be shallow, but kind as most fresh lands are, and the under a poor clay, deep ploughing as a system is certainly not to be deprecated. We know that in Norfolk, England, where the soil is sandy, and probably not superior in its natural state to the lands of Surry, Sussex and Southampton, they have brought that county to a high state of productiveness by a system in part of deep ploughing. A writer in the December No. of the 'Farmers Register,' informs us that in the most sandy lands of Flanders an unparalelled degree of improvement has been attained by periodical digging to the depth of eighteen to twenty-four inches.

But I must be allowed to bring the subject home. For the purpose of illustration, I will give a sketch of my own farm. I have 1,400 acres in my tract, 1000 as I have before said is under cultivation. The cleared land embraces every variety of soil as to quality, and chemical character, and furnishes a fine field for experiments with the plough. About 400 acres of this is a stiff limestone clay, quite productive, and especially well adapted to wheat and clover, and from experiments detailed in a former communication, to timothy also. In addition, there are 200 acres of alluvial or meadow land, most of it very fertile, and producing well under almost any system of cultivation; also 400 acres of mixed soil, (limestone and slate) or of unalloyed slate. The timber upon the first, and second classes, was black-oak, walnut, and ash: upon the last, white-oak and hickory, and upon a narrow strip of it, say 100 acres, a sparse admixture of pine, the latter of course a second rate soil, but very susceptible of improvement, as the crops have fully demonstrated. It was a part of a tract which was settled 106 years ago by a grantee of Lord Fairfax, whose residence (Greenway Court) was a few miles off. The early settler was invited hither, probably by the healthfulness of the situation, and the number of springs and fine rivulets, the latter affording numerous mill-seats. The fact may not be deem-

ed devoid of all interest, that the house which I now occupy, which is a very substantial building of range limestone, was surrounded by a stone wall and piquet, and converted into a fort for the protection of the early settlers against the incursions of the Indians, anterior, and immediately subsequent to the defeat of Braddock, and the antiquary may now amuse himself by following the plough and picking up various aboriginal relics. It was a part of this farm, which an honored predecessor who migrated from a sandy farm in Dinwiddie, some forty years since, became the proprietor of. From him I imbibed my predilection for deep ploughing, and in this respect, at least I have followed with filial fidelity in his footsteps. Writing anonymously, the allusion will not be thought inapposite or indelicate, that he was a practical farmer, and by his judicious management became eminently successful.

Ours is a dry climate, and whether by the gradual clearing of our forest lands, we are ultimately to encounter the fate predicted by Volney, God only knows. and time will determine, not in our generation it is to be hoped. By deep ploughing, the capacity of the soil to retain moisture, is increased. You enlarge the sphere of nourishment to clover, and other vegetables whose roots penetrate deeper, and range wider. As their annual decomposition continues, a soil is formed where there was no soil before. In limestone or other stony lands, each successive deep ploughing detaches, and brings to the surface, stones, which in the scorching droughts of summer, would act as subterranean ovens, drying and burning up vegetables in their contact. These stones should be removed and fences made. I have nearly two miles of substantial stone fencing on my farm now, which I design annually to extend.

Another decided advantage resulting from deep ploughing is this. If the surface is sandy, it is too scorching in summer for clover, the great fertilizer of land. If it consists of mere vegetable mould, it is too light for clover—nor will wheat flourish; for the latter requires a tenacious soil. A clayey substratum is found in most lands, even in sandy regions, and by frequent inversion, and blending of the under and upper soil, you give consistence to the whole; and adapt it better both to wheat and clover, or any other crop. Again, the valley lands have no general tendency to wash; but where they have, the evil is greatly diminished by ploughing deep.

Many scout the idea, that the under clay by mere exposure to the surface, changes its character, and becomes richer; but I entertain this opinion. I do not pretend to sufficient science to decide whether it proceeds from the gases being evolved from the decomposition of vegetable matter turned down, or from the aid of the atmosphere above. Sir Humphrey Davy, with the lights of chemistry, might have solved the problem; but it is pertinent to adopt the language of Hudibras—" no argument like matter of fact is." Certainly the yellow clay changes its color to an ashy hue, and becomes more productive without the aid of manure.

Within my own experience, it is upon my mixed and slate land, the most obvious benefit has been derived from deep tillage. And it was in reference to those lands, my system encountered the strongest tide of popular prejudice. When these lands are first reclaimed from the forest, its upper soil is kind but only three or four inches deep; next is a layer of yellow slate, standing in their vertical spicula, which are easily cut by a sharp plough-share; below this a brownish yellow or red clay. My aim has ever been to reach this substratum, for it is a calcareous soil, as is evidenced by its effervescence with the touch of muriatic or other acids. For this purpose, I use large McCormick, or, what I prefer, the three-horse Loudoun plough, drawn by three strong Conestoga horses; for maugre the high authority of Mr. Madison, Sir John Sinclair, and others, mules, oxen, and blooded horses are generally discarded in this country, even by low-landers and their descendants, who have emigrated here, and form so large a part of our population. Mules I have never used; oxen are slow and lazy, and make negroes slow and lazy—but are still continued on the farm to perform the lazy work of hauling wood, straw, &c. They will not do for long drafts, or summer service. Blooded horses may suit our friend, William R. Johnson very well; but for service upon a stiff valley soil, they are unprofitable. Their fiery spirit or fractious tempers, cause them to run off with our ploughs, tear loose from wagons, break down fences, and sometimes break their necks. But to return: by means of this strong plough and these horses, I endeavor to get ten inches, or a foot below the surface; and if machinery could be invented and put into *cheap and practical* operation, which would penetrate two feet, I would place it in immediate requisition. By this deep ploughing, this crust of soft slate is turned up. It yields to the action of heat, moisture and winter frosts—is decomposed and adds to the modicum of soil. When by turning up, and mixing the calcareous earth below, with this virgin, and slate soil, a combination is formed, which equals the pure limestone in producing any of the crops of the country, unless it be in flat spouty spots, which will remain unpropitious to wheat, without much care in manuring, ridging, and rotting.

The usual objection to deep ploughing in an inferior soil, is, that you turn up, in the language of Arator, a mere *caput mortuum*, and impoverish the surface soil; but let us advert to due causes which create this surface soil, and hence make deductions unfavorable to the theory. It is not formed merely by the decomposition of leaves, roots, and other vegetable aid, but by imbibing atmospheric manure. This is proven by familiar examples. The clay thrown out of deep cellars or graves, is found, without the application of manure or original vegetable aid, to be soon covered with rich grass, or weeds. The atmosphere, which teems with life and fecundating properties, has impregnated this clay with this rich resource of bountiful nature, and hence, if these deep masses of clay were cultivated after the lapse of two or three years at most, they would be found extremely fruitful. Now, I admit reluctantly, however, that by very deep ploughing—turning up the subsoil, and turning down the upper—you may, for one or two years, paralyze the activity of the surface soil. But farming, when pursued as a system, should look beyond the span of two years, to future reimbursements. The advantages of deep ploughing, however, may be secured without the exposure to their supposed counteracting evils. Smith's Scotch

subsoil plough—which I have never seen, and know not if it has been introduced into this country—is said to be so contrived as to plough fifteen or eighteen inches, without throwing the under soil to the surface. Perhaps, Deleplane's may answer the same purpose. But, in this country some of us, in the absence of these subsoil-ploughs substitute a very simple expedient. It has not the merit of novelty to all, for it strikes me that General Cocke used it ten or fifteen years ago. We break up our lands by means of a three-horse plough, as deep as we well can. Immediately behind the team of horses, in the same furrow, a boy follows, with a strong horse, and coulter plough. with which he cuts the clay four or five inches more, without turning it to the surface. This is imperfectly done, of course, with one ploughing, as it leaves serrated ridges on the sides of each furrow; but by a few successive crops or diagonal ploughing, in a few years the main object is attained, viz: a deep soil.

In this country, upon the better class of farms, the economy of timber attracts attention. I have been in the habit of clearing only five or six acres annually, and that with a view to obtain fuel, ratfs, and, by cutting off points, to add to the symmetry and convenience of the farm. After this winter, I shall desist entirely, and rely upon cutting from the forests dead or decaying timber. My plan, heretofore, when I cleared was simply this. I cut down and removed the trees in the winter, leaving the brush, leaves, and roots to rot. A year or more after, as many of the stumps as we could burn, were fired, and the remaining brush removed. I then take a coulter plough, and cut the soil as deep as can be effected, in parallel lines, about a foot asunder. After this process, the three-horse plough, with the aforesaid Conestogas, is introduced, and thus, with the previous aid of the coulter, the soil is pretty well turned up. It is then stired with the shovel, which works up close to the stumps. The ground is then harrowed and the corn planted, upon which, or soon after it comes up, little boys are employed to drop half a handful of plaster and ashes, mixed in equal proportions. It is then well worked with the shovel and what we call the Lupton plough, an invaluable implement, by the way, for the cultivation of corn. It is an angular plough, with three long narrow shovels, which passes over a surface of two and a half or three feet. Thus managed, it must be a very inferior soil, or bad season, indeed, if it does not produce at least five barrels of corn to the acre. In the fall, the corn is cut and put up in heaps, when the large bar-share plough is again introduced, and the roots then being rotted, and the land in kinder tilth, a still deeper ploughing is accomplished. This is harrowed—wheat sown, which is shovelled in; then timothy seed, which is harrowed in, which completes the process. On the timothy, however, I add clover seed, to make assurance doubly sure, and one year after, plaster. The land remains in grass two years, when wheat is again sown, and this strip of land is brought within the range of my ordinary rotation.

Next to deep ploughing, the most important agent towards good tillage is manure. Of this, I make a sufficiency to cover fifty acres annually, and without the aid of those "curious sheds, ingenious stercoraries, and mellow compost pies," which are emphatically and I think appropriately condemned by John H. Powell, in the Memoirs' of the Pennsylvania Agricultural Society, as being, neither adapted to our climate, nor to our purses, nor plans. But I reserve a communication on the subject of manures to a future number.

I congratulate you sir, in the mean time, that a spirit of agricultural inquiry is abroad upon the land. Indulging the pride of native Virginians, we should feel a deep interest in the renovation of the Old Dominion. Let us all unite then in one consantaneous effort, to widen and deepen that stream of national prosperity, whose fountain is agriculture. An improved system of husbandry, would inevitably, arrest that tide of emigration, which is bearing along from the graves of their fathers, some of the choiest spirits of the land, to countries too, where nature has been less bountiful, than to beautiful Virginia, to a land where steril soil is encountered, or a climate infected with distructive malaria, and a society in general so unmeasurably inferior to the orderly, hospitable and intelligent freeman of this commonwealth, that that which an insalubrious climate leaves undone a settled despondency, brandy or the bowie knife, will soon complete.

A FREDERICK FARMER.

P. S.—In the former number there are a few typographical errors, arising, doubtless from my haste in writing. The intelligent reader will correct them. There is, also, a mistake of my own. For "one gallon of timothy seed," read "one quart." One gallon is the proper quantity of *clover* seed to the acre. The two were confounded.

A F. F.

BROOKS' MACHINE EOR THRASHING OUT CLOVER SEED.

Rockbridge County, Virginiv,
11th December, 1837.

To the Editor of the Farmers' Register.

* * * * The copy of the Farmers' Register, above ordered, was awarded Major Brooks, by the Rockbridge Agricultural Society, as a premium for the best thrashing machine for getting out clover seed, at our last Agricultural Fair, held at Mr. Samuel Wilson's. It is a small machine and can be attached to any horse-power in common use, and it is thought by the patentee, and others who have used it, that it will readily get out ten bushels of seed per day. It throws the seed from eight to twelve feet from the machine, and separates it almost entirely from the chaff. In three and a half hours it has gotten out upwards of four bushels of seed. The machine is on the cylinder and concave plan, to which are screwed or nailed three-fourth or inch strips of sole leather. It is believed to be the best clover machine that has ever operated in our valley. The proprietor has recently taken out a patent, and is ready to sell single, county, or state rights. The machine, when finished in the best manner, will not cost more than $25.

Respectfully, your obedient servant.

HENRY B. JONES, *Treasurer of Rockbridge Agricultural Society.*

LIMESTONES OF ROCKBRIDGE COUNTY.

Lexington, Va. December, 20th, 1837.

To the Editor of the Farmers' Register.

Dear Sir—Dr. Leyburn, one of our representatives in the House of Delegates, has kindly agreed to convey in his trunk, to Richmond, a few specimens of limestone, which I wish to send yon. They will, perhaps, be interesting to such of your acquaintances as have never seen limestone, and possibly may be interesting to you, who have not seen any for years.

I send you three kinds, obviously distinguished from each other by their color; the white, the blue and the gray. The French mineralogists distinguish the limestones into two general kinds or classes, which they term *carbonate sacharoide* and *carbonate compacte.* You will at once perceive that of the three specimens I have mentioned, the white and the blue belong to the class *compacte;* or in plain English, they are both compact limestone. The gray limestone is not exactly what the French mean by *sacharoide*, or sugar-loaf texture. It, however, approaches very near to it. You will readily perceive that it is an aggregate of crystals; but crystals of a peculiar form —something like the particles of bran. By comparing the specimens I send (I send two) with Italian *sacharoide* marble, or, if that is not convenient, with loaf sugar, you will perceive the difference of texture. The gray limestone is considered the best kind our valley affords for plastering or white washing houses.

The lime it produces is whiter than that from any other limestone; and, as the workmen say "it works tougher," The lime from the blue limestone is, however, a more beautiful rock than the gray, for building, and is also the most abundant. You will perceive from the specimens I send you, that it is exceedingly compact. I should suppose it is one of the most compact rocks in the world, except the precious stones. The gray limestone is a species of marble; it works so well under the chisel that it can be made to assume any desirable form; but its color will prevent it from being much used as marble.

The white limestone is thought by some to be marble, and so far as color goes, it would be equal to the Italian statuary marble; but I suspect it will not work well under the chisel. It appears to me, to be hard compact limestone.

Although I send but three colors, you are not to suppose that these are all the colors we possess. There is limestone of many shades between the white and the deep blue.

I am sorry I have at hand, no specimens of crystalized limestone to send you. It is a beautiful substance; in the books, it is generally called calcareous spar—sometimes Iceland spar. Mineralogists enumerate hundreds of forms, which it assumes; but which are all reduceable to one elementary form. It is easily obtained in a few places in this county.

In addition to the specimens mentioned above, I send you two specimens of hydraulic limestone. There are several veins of it in our county, but they are almost all too inconveniently situated to be worked at present prices.

Upon the appearance of the first number of the Farmers' Register, I determined to contribute something to its pages, and three or four times had selected subjects, on which I intended to write; but before I had any thing ready for the press, I found myself anticipated—others having communicated to you dissertations on the same subjects, as those on which I intended to write. I, however, had one consolation, that although I was deprived of the opportunity of showing my zeal in favor of the work, yet neither the Register nor its readers sustained any loss, as the dissertations which were published were equal, some of them superior, to any thing I should have produced on the same subjects. I have not been doing any thing at farming during the last seven years, consequently could not give you the result of any experiments. I might give theory in some cases; but neither you nor your readers set a very high value on theory.

The people of our valley, have, as yet done little in liming. Few of them understand the best manner of using it, and it is a considerable trouble and expense to prepare it. Our rock marl (calcareous tufa or travertine,) might, I think be used to great advantage by many of our farmers, if they had the right theory in their heads on the subject, but they (the owners of the marl banks) have not read your 'Essay on Calcareous Manures,' and if they would read it, perhaps would not well understand it, although it is expressed as plainly as such a work could well be.

Wishing well to yourself and family, and success to your valuable publication,

I remain, sir, sincerely yours,

EDW. GRAHAM.

PROCEEDINGS OF THE EDITORIAL CONVENTION.

[The Convention of Editors and Publishers of Virginia, (and the Virginia side of the District of Columbia,) was held at the appointed time, and the measures were adopted which are stated in their journal, which will be given at length below. But besides these reports and resolutions which were approved and adopted, and which therefore, only appear on the journal, other subjects were considered and discussed at much greater length, and then either postponed, or rejected. Among these was the proposition to adopt a general scale of prices for printing—which plan was considered by a large majority as inexpedient, improper, and indeed, impracticable.

The report on the pecuniary relations of publishers and their subscribers, sets forth in general terms the enormity of the evils suffered by all periodical publications, and which are felt by few more heavily than by the Farmers' Register. The original report and resolutions, as proposed to the committee, presented stronger measures of relief than those which were approved and adopted. It is hoped, however, that the statement of grievances presented in the preamble, will, alone, have much effect on all honest and responsible subscribers—and the sooner that all our lists are purged of subscribers of a different character, so much the better for the interest of the publishers.

From the report and resolutions on the tone and manner of the newspaper press, and the conduct of editors to each other, we anticipate much good in pu-

rifying, at the source, the great and most efficient fountain of public instruction in our country. But there is yet a better founded hope, (than any resting merely on resolutions and enactments on paper,) for this most beneficial result, on the ground of the kindly feelings produced and nourished between editors who then first knew each other personally, and who met as enemies, and who, without exception, as editors, acted together, and parted, as friends. Even if no vote had been taken, and no record of agreement made, we feel assured that it is impossible that the conciliatory and friendly and delightful intercourse then commenced and maintained, can ever be forgotten, or entirely lose its influence in restraining the future disposition to resume the personally hostile attitude, and course of personal invective and crimination, which have been alike degrading to those who used, and those who suffered such modes of editorial warfare. Though our own peculiar position has secured us from a participation in this very general course of procedure, we rejoice, as every citizen and patriot should rejoice, at the fair prospect of hereafter preserving the press of Virginia free from this foul reproach. Still, the temptation to break through this proper restraint will be always besetting political editors—and all the members of the convention will require to bear constantly in mind the admonition of their president—"*prenez garde!*"—Ed. Far. Reg.]

At a convention of the editors of Virginia, held pursuant to notice, in the Capitol, on the 17th January, 1838—Thomas Ritchie Esq., was called to the chair, and Wm. M. Blackford appointed secretary.

Mr. Ritchie, on taking the chair, addressed the meeting as follows :

"*Gentlemen*—I thank you for the honor you have done me; though I am not vain enough to ascribe this distinction to any thing else than my years. I have long passed for the "veteran," and by courtesey for the "venerable," editor of the Enquirer; and although the epithet might have been given to me long before I deserved it, yet I am sensible that years are giving me some title to it, and that every day is only calculated to confirm it. I am sure, that none of you, gentlemen, will envy me the advantage of my years, or the pretensions they may give me to the honors of this chair.

"But with all my experience, I have acquired but little knowledge of parliamentary law. Fortunately, I shall have but little occasion for it. Our convention is too small, to encourage the vehemence of debate. No long or violent discussions are likely to disturb the order of our proceedings—and I may safely trust to that spirit of harmony, for which, *you know*, our caste has been so long and so justly celebrated, for our protection against *disorder*.

" We have assembled here, gentlemen, under the hope of improving the character and condition of the important profession of which we are members. The press is indeed the 'great magician' of the age. Wherever it is established, it is diffusing light all around it. It is promoting the progress of every art. It is extending the sphere of every science. In our own country it is a necessary agent—and if properly conducted, it would be an inestimable instrument. How can a free government be wisely administered without it? How can a free people acquire that knowledge of facts and of characters, which is so necessary to the proper selection of their agents? A republican government presupposes, indeed, that the people can govern themselves—and how can a poople continue free, unless they are enlightened? The press is the great instrument of information. It is indeed an essential part of the composition of a free society, which is scattered over so extensive a territory as that of the United States. The fact verifies the theory. Scarcely do we settle a village in the "far west," scarcely have we erected an inn, a blacksmith's shop, and a store, before our inqusitive countrymen begin to think of the press. It has been pronounced, "the art, preservative of all arts." So familiar are we with its value, that we almost wonder how the ancients could have got along without it.

" But, sirs, the press is generally of more benefit to others, than it is to its own conductors. No profession is more irksome or laborious. None imposes such serious sacrifices, as this does upon the consciencious editor. His labors are " still begining, never ending." He is constantly rolling the stone of Sisyphus up the mountain; and it is forever rolling back upon him. He is toiling day and night. He is literally a prisoner in his own castle. Exercise and fresh air, are too frequently denied to him. You, who know " the secrets of your prison house," can only know what exertions it requires, and what privations it imposes upon you. You know, for you only have seen and felt it, to what cares, both of body and mind, he is subjected—how tedious are his vigils, how anxiously he sits by his solitary fire, in the depth of the night, listening for the returning footsteps of the poor "devil" who is bringing him the proofs of the manuscript, which, with the spider's ingenuity, he had been compelled to spin out of his own brain.

" And where is the compensation which he reaps for so many sacrifices aud services—for so severe and laborious an exercise of so important a profession? You must have been more fortunate, gentlemen, than I have been, if you have acquired the treasures of Crœsus, or the purse of Fortunatus. I have served as long an apprenticeship as any of you; but I can lay claim to no such acquisition. We are rich only in our ledgers. We never are--"but always to be blessed." We are the martyrs to that expanded system of indiscriminate credit, which has overspread our country—but no other class of society has suffered as much by it as we have. Our cornucopias are filled; but not with gold and silver, nor even with with bank notes; but with our subscribers' bills. It is time for us to change the system and correct the evil. This is one of the present objects, for which we have convened here to day. We must adopt some measures to prevent the multiplication or promote the collection of the debts, with which our offices have been so sorely taxed. We must do that justice to ourselves, which so many others refuse to us. We have not met here, gentlemen, to combine against society, by raising our wages; but to compare our respective situations, to examine the evils under which we are all laboring, to devise some measures of relief, to advise each

other, and to come to some arrangements for the collection of our debts.

"But this is not all, gentlemen—nor is it the most important duty which we have to perform. The press is not only useful to society, but it should be profitable to its conductors—and, may I not add, that it should be honorable to its conductors. It should be a source both of fortune and of distinction. It is so in Europe. In Paris, whose journals cannot compare with our own, either in dimension, in ability, or in independence, some of her principal journalists are among the highest dignitaries of the government. The press is indeed a passport to power.

"The profession is rising in England, not only in emolument, but in dignity. One of the most distinguished journals in the world is the 'Examiner' of London, and you may recollect in the last July No. of the 'Edinburgh Review,' that the high character of its editor, Mr. Fonblanque, has obtained for him the honor of a long and complimentary article in the first periodical of the age. The reviewer pronounces "his style to be clear as Swift's, and sometimes as graceful as Addison's, whilst it is more figurative in expression, and much richer in anecdote and allusion."

"And why is it, gentlemen, that our profession does not occupy that station in society to which it is entitled? Let us not disguise the fact. It is our own fault. No maxim is more true, than that he who would have the respect of others, must show that he respects himself. We have descended to abuse each other in a manner that has lost the respect of the world. We misrepresent each other's motives—we heap approbrious epithets upon each other's heads—we do not recollect that violence is not energy, and that virulence is any thing but dignity. How can we expect to be treated as gentlemen, if we do not conduct ourselves as gentlemen? Each one says indeed, that it is not his fault. He tries to justify himself by pleading self-defence. But whosesoever be the fault, the effect is undeniable, that in this eternal warfare of attack and of recrimination, the press has lost much of its dignity, and much of that moral influence which it would have a right to claim, and would unquestionably command, in a free and enlightened country. The mischief does not stop here. The licentiousness of the press insensibly lowers the tone of private manners, and infects the character of our public councils. In this respect, therefore, the interests of society, as well as the reputation of its conductors, demand a thorough reform.

"This is, gentlemen, another of the great objects for which we have convened together—and I am sure there is no well-regulated mind in this assembly which will not heartily co-operate in all the measures which may be necessary to improve and elevate the tone of the press.

"You will probably have other subjects before you. Be assured, gentlemen, that I will spare no effort to facilitate the business of the convention. I trust sincerely, that we shall part in the same harmony in which we have met."

On calling the names of the Editors of the state, the following gentlemen were found to be in attendance.

Thomas Ritchie, Richmond Enquirer.
Alexander Mosely, Richmond Whig.
James A. Cowardin, } Richmond Compiler.
Wm. H. Davis, }
Z. Mead, Southern Churchman.
Wm. A Smith, Conference Journal.
Wm. Sands, Religious Herald.
Thomas W. White, S. L. Messenger.
John S. Gallaher, Charlestown Free Press.
Edmund Ruffin, Farmers' Register.
Edgar Snowden, Alexandria Gazette.
Richard H. Toler, Lynchburg Virginian.
Alexander J. Marshall, Warrenton Times.
Robert Ricketts, Warrenton Jeffersonian.
E. P. Hunter, Martinsburg Gazette.
Wm. M. Blackford, Fredericksburg Political Arena.

Mr. Hill, Editor of the Wilmington (N. C.) Advertiser, being present, was invited to take a seat in the Convention.

On motion of Mr. Ruffin,

Resolved, That the relations between the publishers of, and subscribers to, newspapers and other periodicals, be referred to a committee, with instructions to consider and report the existing evils, and to propose such remedies as may seem most proper and effectual.

On motion of Mr. Sands,

Resolved, That the subject of adopting a uniform scale of prices for book and job printing and advertising, as far as the same is practicable, and also for the regulation of the relations between employers, journeymen and apprentices, be referred to a select committee, to report to-morrow.

On motion of Mr. Snowden,

Resolved, That the subject of the proper tone and manner of conducting the newspaper press of Virginia, be referred to a select committee, to report to-morrow.

The chair appointed, under the first resolution, the following gentlemen to constitute the committee:

Messrs. Ruffin, White, Toler, Mosely, Hunter and Alexander.

Under the second resolution:

Messrs. Sands, White, Walker, Marshall, Davis, Ricketts, and Mead.

Under the third:

Messrs. Snowden, Gallaher, Blackford, Toler, Ruffin, Hunter, Cowardin and Smith.

On motion, Mr. Ritchie was added to the com mittee under the third resolution.

The convention then adjourned, to meet at 5 o'clock to-morrow evening.

Thursday evening, January 18th, 5 P. M.

The convention met pursuant to adjournment.

Mr. Alexander, editor of the Charlottesville Jeffersonian Republican, and Mr. J. C. Walker, of Richmond, appeared and took their seats.

Several communications addressed to the convention, were read, and for the present laid on the table.

On motion of Mr. Gallaher,

Resolved, That such members of the legislature, and other gentlemen, as have been heretofore connected with the press, be invited to seats in this convention, as honorary members.

Mr. Ruffin, from the committee appointed yesterday, under the 1st resolution, presented a report and resolutions, which after some debate and amendment, were adopted in the following form:

The committee to whom was referred the sub-

ject of the relations of publishers and their subscribers, with instructions to report the existing evils, and to propose suitable remedies, submit their views in the following report, which, with the resolutions annexed, they recommend to be adopted by the convention.

It has long been generally understood and admitted, that the arduous labors and large expenditures requisite for publishing newspapers and other periodicals, have been paid for by the subscribers, on the general average, with less punctuality and certainty, and with more abatement of the just amount, by partial or total losses of dues, and by the cost of postage and of commissions and other expenses of collections, than in any other trade or business of importance and necessity to the public. The principal causes of the greater losses sustained in this branch of industry, are presented in the following circumstances.

Different from every other kind of business, the furnishing of newspapers and magazines to those who subscribe for them, is done (in this country) almost wholly *on credit*—and, moreover, the debts so incurred are for very small sums, due from hundreds or thousands of different individuals, remotely located and widely dispersed—who are, for the far greater number, altogether unknown to their creditor, and who, therefore, of course, are finally often found to be entirely irresponsible for such obligations. The magnitude of these causes of loss has not been appreciated, and scarcely can be properly appreciated, by any except those who have suffered the consequent injuries. But, if it be but supposed that any other business—no matter in what department of industry, and though now it be among the most prosperous and profitable—were placed on the like footing, as to the small amount of each customer's annual purchases, the great number and small amount of the debts so made, and the general absence of any real accountability of the debtors, or of the means of enforcing payments—then it will be readily understood and conceded, that the previous prosperous and safe condition of the supposed business, would be speedily and certainly changed to loss, embarrassment, and finally to bankruptcy.

Owing to such causes, the heretofore usual and average losses of subscription money sustained in conducting newspapers and other periodical publications, have not been less than one-fourth of the whole amounts subscribed and legally due. Many publications, with subscription lists promising fair profits, have lost much more than a fourth. But this former and usual rate of loss, has been greatly augmented by the recently produced, and still existing, disordered state of the currency, and general depreciation of bank paper, and the pecuniary embarrassments of the country in general. Every trade, and indeed every individual, has sustained enough of difficulty and loss, from this condition of the currency, to form some conception of the enormous addition of loss that it must make to whatever was before imposed on printers and publishers of periodicals. The greater and irregular depreciation, within this state, of the bank paper of most other states, has opposed a new and considerable difficulty in making payments for subscriptions, even to the most punctual and conscientious of remote debtors; and it has furnished a plausable excuse for delay and failure of payments, which has been fully availed of by many of a different character.

The general credit system which has been established in the printing business, and the long extensions of time for which debts for subscriptions have been permitted to remain unsettled, and without the debtors being even heard from, have served to give importance and great increase to another class of losses. Many postmasters, alike disregarding the requisitions of the law and the instructions under which they act, their oath of office, and the plainest moral obligations, suffer publications to be sent to their respective post offices for times of considerable length, and sometimes even for years together, directed to persons who have moved away, or are dead, or who otherwise fail or refuse to take the numbers sent to them. In many cases a subscriber is thus made, by the misconduct of the postmaster, to appear to be an unfaithful, or fraudulent debtor, when, in fact, he has been guilty of no fault, save the carelessness of trusting to a postmaster to discontinue his subscription, who failed to do so—or afterwards to give to the publisher the proper legal notice, strictly enjoined in every case of a publication being addressed to a person who refuses or fails to take it from the office. Without such notice, and under the existing lax credit system, in all such cases, the journal is continued to be sent, and it is only, perhaps, after one or two years, that the publisher learns, by chance, or by a tardy notification from the delinquent postmaster, or his successor in office, that he has been so long defrauded of his labor and property, and has no means of redress worth resorting to. Before the discovery is made, perhaps the supposed (and unconscious) debtor has been long a resident of a distant state, or is dead—and even the post office directed to, may have long been discontinued, and the continuation of the neglect or fraud be then carrying on at some other place, and by another person.

Many of the losses incurred belong to, and are inseparable from, the business of publishing journals on subscription. But there are many others which may be mitigated, if not entirely guarded against. Among the causes of loss, the most important and injurious is the very blameable and absurd facility with which publishers have permitted debts for subscriptions to be contracted by remote and unknown indiviuuals, and to remain due for years before payment is made—if ever made. So universal, in this trade, has become this loose system of giving and continuing credits, that no one publisher could adopt a different and proper course, without giving offence to, and losing the support of, many subscribers who are both honorable in conduct, and responsible in estate. And as no single publisher has dared to commence a reformation of the general bad usage, all have aided to establish, by their excess of indulgence, a mode of carrying on their business which all deemed injurious to their interests, and which every considerate subscriber would admit to be improper and excusable, in every point of view. To remedy these evils, in some measure, the following regulations are proposed:

1. All subscriptions shall hereafter be considered as incurred and due in advance, and for a year's publication; unless specially ordered for a shorter time, and paid for in advance for that shorter time, when so ordered.

2. No publication shall be sent to the order of any new and unknown subscriber, unless paid for in advance, or satisfactory reference be made to some known and accessible person in regard to the subscriber or his payment. But, in case of an order for a publication, without payment, from a new subscriber who is unacquainted with the conditions, a single number may be sent, containing, or accompanied by, a copy of this regulation.

3. The names of all subscribers whose ability to pay may be unknown to the publisher, and who may remain indebted on open account at the end of two years, from the time when the advanced payment was due, shall be erased from the list of subscribers.

Mr. Sands, from the committee appointed in like manner, under the 2d resolution, presented a report and resolutions, which were for the present laid on the table.

Mr. Snowden, from the committee under the 3d resolution of yesterday, presented the following report and resolutions, which were unanimously adopted:

The committee to which was referred the 3d resolution of the convention, relative to the conduct of the press of Virginia, have had the same under consideration, and beg leave to report:

So important has the newspaper press become, not only as the disseminator of intelligence and the ordinary news of the day, but as exerting an influence upon the moral as well as the political relations of society, that all must take an interest in seeing its tone and character elevated and sustained, and its energies directed to the best and most useful means. If a *free* pree be the palladium of our liberties, a *pure* one is absolutely necessary to preserve our relish for our liberties, and fit us for a proper enjoyment of them.

The public, therefore, is concerned, and its interests deeply involved, in the correct management of the press, and in the character of the newspapers of our country. What is designed for our intellectual repast around the family fireside, of which all are to partake, cannot be a matter of indifference to any virtuous citizen. As much, however, as the public is interested, the editors and conductors of the press themselves must feel a still deeper solicitude. When men devote their energies to any labor, they are anxious to see that labor applied to its legitimate purposes, and produce its proper results. We are all daily and hourly employing our time and our minds in a laborious task, and are constantly occupied in a profession, in which we seldom, as things are at present, reap profit, and often meet with discouragement. It is, therefore, as much a matter of interest as of duty, with us, to unite in an attempt to increase the usefulness and advance the respectability of the press, and thus make it more worthy the countenance and generous support of the public.

To make particular rules applicable to all cases, in furtherance of this desirable object, would be found impracticable. We all agree, that the general conduct of the newspaper press ought to be improved—its tone changed, and its manner polished. It is, however, in the hands of responsible and independent individuals, whose opinions and judgments are as various, as their establishments are separate and distinct. It is obvious, then, that much must be left to the sound discretion of the editors themselves. We can do nothing more than to recognize certain general principles which ought to regulate the press, and to recommend to our brethren throughout the commonwealth to act upon them, and apply them as they may see proper, so as never, however circumstances may vary, to violate their spirit, or interrupt their harmony and symmetry. These, at last, resolve themselves into the general doctrine of making the press *pure* as well as *free—dignified* as well as *independent—respectable* as well as *interesting*. If this were accomplished, the situation of an editor would be rendered more pleasant, and even more honorable, than it now is. If we respect ourselves, the public will respect us. Along with the habit, which has now grown to be a part of our nature, of looking at our newspapers for information on all the topics of the day, would grow up a confidence in the rectitude of our intentions, and the excellence of our motives, which would make newspapers even more than they now are, a necessary part of the *literature* of our country, and give increased value to our labors. We would then be thought worthy of a full and ample remuneration, for works, on which all could rely, and to which all could turn with profit and pleasure.

No where could the experiment we are now about to make, of elevating the character of the press, be more advantageously commenced, and with a fairer prospect of success, than in the state of Virginia. The newspaper readers, and in this case we may include nearly all the citizens of the commonwealth, are intelligent and virtuous. They have, at heart, the welfare of their country, and the happiness of the people. Conscious how much depends upon the conduct of the press of the state, in effecting these objects; how potent an engine the press is in their political and social relations; how great its influence must necessarily be, for weal or for woe; they, we confidently believe, will applaud us for, and sustain us in, the effort we are now making, to render it worthy of them and of us.

Fully impressed with this belief, with the brief and general views here given, we submit the following resolutions:

Resolved, That, in the opinion of this convention, in referring to editorial opinions, the name of the newspaper alone should be used, and discussions between editors carried on, divested entirely of personal references, of opprobious epithets, and of harsh language; and that the editorial intercourse should be marked by amenity, courtesy, and, as far as possible, good feelings and kindness—thus, in the course of the editors towards one another, setting an example to correspondents, and relieving themselves and the public from the disgust attendant upon newspaper controversies, in which personalities or abuse are indulged.

Resolved, That, in the opinion of this convention, to rid the press as much as possible of personal controversy, it is proper that all articles of a purely personal nature, in which the passions or prejudices, or feelings of one or more individuals only are concerned, should be entirely excluded from the columns of the newspapers; and that such articles of controversy as result from personal difficulties, but from the circumstances attendant up-

on them, become of concern to the public, be inserted as, and charged double the regular rates of advertisements.

Resolved, That, in the opinion of this convention, it would greatly tend to correct the public taste, to advance the cause of virtue and sound morality, if the editors of newspapers would discountenance, as much as possible, the publication of the horrid minutiæ and details of murders and suicides, the disgusting incidents connected with duels and affrays, which sometimes occur in different parts of our country, and also, accounts of the ingenuity of the vicious in their depradations upon society; all of which only tend to encourage vice, and spread the knowledge of crime.

Resolved, That, in the opinion of the convention, it would be highly conducive to the interests of the public, and honorable to the characters of editors, if the newspapers of the country were to be devoted as much as possible, to the dissemination of useful facts, of general knowledge, and of all such matter as will tend to refine, to enlighten and to improve, in preference to articles which merely gratify a vitiated taste, or pamper a depraved appetite for scandal.

Friday morning, 19*th January* 9, *A. M.*

The Rev. W. S. Plumer, editor of the Richmond Watchman of the South, appeared and took his seat.

The report and resolutions presented to the convention yesterday by Mr. Sands, from the committee under the second resolution, were taken up, and after considerable debate, indefinitely postponed.

On motion of Mr. Snowden,

Resolved, That it be recommended to the editors of newspapers throughout the commonwealth to publish at the head of their papers, their rates for advertising; and that they strictly adhere to the same, and that these prices be always such as to give a fair compensation for the labor performed.

On motion of Mr. Blackford.

Besolved, That Messrs. Ritchie, Gallaher, Cowardin, Ruffin, White, and Sands, be appointed a committee to devise some plan for the more speedy and certain collection of moneys due to editors.

On motion of Mr. Ruffin,

Resolved, For the purpose of cultivating personal acquaintance among the members of the editorial corps, and for renewing and continuing the kindly and cordial intercourse which has been so happily commenced, and also to strengthen, amend, or complete the course now adopted and left imperfect—that another convention of the editors and publishers of Virginia, be held in the city of Richmond, on the 22d of February, 1839.

On motion of Mr. Sands.

Resolved, That it be recommended to editors, not to employ any apprentice, who may have left the service of his employer, before the time for which he engaged to serve shall have expired, unless with the consent of the former employer.

On motion of Mr. Ricketts,

Resolved, That the Secretary be instructed to tender the thanks of this convention to the presidents and directors of the Richmond and Fredericksburg, and the Louisa railroad companies, for the courtesy extended to the editors of the state, in affording them the facilities of a free passage on their respective roads.

On motion,

Resolved, That the proceedings of this convention be published in the several papers of this commonweath, and that the editors not present, be requested to signify their acquiescence in, or dissent from, the principles embraced in the foregoing resolutions.

On motion of Mr. Hunter,

Resolved, That the thanks of the convention be tendered to the president for the dignified, impartial, and agreeable manner in which he has presided over its delibrations.

On motion of Mr. Snowden,

Resolved, That the thanks of the convention be tendered to the secretary, for the satisfactory manner in which he has discharged his duties.

THOMAS RITCHIE, *Chairman.*
WM. M. BLACKFORD, *Secretary.*

EXTRACTS OF PRIVATE CORRESPONDENCE.

Goochland, Va. October 10, 1837.

When I ascribed (incorrectly) the communication, page 11 to thy pen, it was because we all knew that thou wast in the habit, of occasionally publishing accounts of the management of well regulated farms. I have just read that of my neighbor Sampson's, with a great deal of interest. What adds to the merits of his farming, is, that his lands on the north side of the public road are naturally some of the most barren in the county. Higher up the river, the land is of much better quality originally.

—

Amelia, November 28, 1837.

* * * * *

I fear that your theory, as to the ultimate constitution of soil, is but too well established. If so, what are those who live on exhausted soils, inaccessible to calcareous matter in any form, to do? May not your theory, just, as far as it goes, fall short of the provident economy of nature in this respect? Such a degree of cover as will admit rain, and only permit its escape slowly, will improve any land highly. What is there in the substratum, purely aluminous, in red galls, in any event to fix the fertilizing properties, carbonic or hydrogen gas, of rain? The cover may be of a material not decomposable till long after the improvement of which it is the medium.

I infer from your 'Essay,' that you regard gypsum merely valuable as a specific aliment of some grasses. Has it no affinity for humic acid, which may render it a substitute for calcareous earth, as well as a solvent for dead vegetables? I venture, though a stranger, to put these inquiries; because it appears to me that the fair inference from the reasoning of your 'Essay,' in which I am well prepared to concur, is that the part of our state in which I live, remote both from lime and marl, and exhausted of any calcareous matter it may once have had, ought to be abandoned. I should act on this impression myself, but for the possession of resources for living elsewhere.

My observation of prairies in the south, verifies your theory in relation to them. * * * *

[The inquiries of our highly respected correspondent cannot be answered with conciseness, nor satisfactorily to ourselves. But, in general terms, we will take this opportunity of explaining, and limiting in some measure, the too general application of the doctrines in regard to the fertility of soils, from which our correspondent draws his inferences.

We still maintain, and as firmly as ever, as to the poor region below the falls, which may be called the pine region, and as to similar "acid" soils above the falls, the positions assumed in the 'Essay on Calcareous Manures'; viz. that these soils are not durably or profitably improvable (above their natural rate of productiveness) by putrescent manures, nor by gypsum, unless with the previous or simultaneous application of lime or other calcareous manure. But our subsequent information and observation of other poor lands above the falls, and especially Mr. Sampson's undoubted success in improving such by leaves and gypsum, compel the belief that the poor lands of Goochland, and no doubt of Amelia also, have some valuable ingredient, or chemical quality, which is wanting in the pine lands, and which fits them, in a greater or less degree, to receive benefit both from gypsum and putrescent manures.—Ed. Far. Reg.]

From Loudon's Gardener's Magazine.

TO KEEP FILBERTS SOUND.

Filberts are preserved a year and upwards, with as good a flavor as when gathered from the tree, by packing them in earthern jars, covering them with about an inch in thickness of common salt, and keeping them in a cellar.

From the Philadelphia Gazette.

GRAPES ON TOWN HOUSES.

While recurring to the articles of the late exhibition, we may mention a few bunches of grapes left by Dr. Sharpless, of Arch street. They were of a very delicate class, but we mention them less with regard to their excellence, than to say that they are an additional evidence of the capabilities of every house lot to produce grapes. Dr. Sharpless placed the cutting of the vine, from which these grapes were raised, in a little corner, a few feet square, presenting neither sun nor space, for grape vines—but he conducted the vine to the top of his building, three stories high, over which he erected an arbor, upon which the vine, having worked to that height, was allowed to expand. On the second year after setting out the slip, one or two bunches of grapes were taken from the vine, which had in that time attained such an eminence; and this, the third year, the vine produced upwards of 70 large bunches of fruit. What encouragement is here for any one, and every one to set out a vine! A man at the corner of Pine and Sixth streets, long since conducted a vine to the roof of his house, and was thus enabled not only to sit, but to sleep under his vine, and to make some excellent wine from its fruit. And any body may do the same thing, and have as much fruit of the kind as is desired, if they will set out the vine and let it grow, no matter whether the person owns the house he lives in or not. Let every one plant a vine, and the people will move from vine to vine, just as they now go from hydrant to hydrant.

From the Richmond Whig.

REMARKABLE SAGACITY OF A DOG.

Dash, the subject of the following lines, is a native of Hanover county, Virginia—was carried to Boon county, Kentucky, the fall of 1835; between two and three hundred miles of the way by water, on board a steamboat. He remained apparently satisfied with the family that carried him there, for three weeks after their landing, when he suddenly disappeared, and in eighteen days arrived at the place of his nativity, having travelled a distance of six hundred miles. A few weeks after his return to Virginia, he was again carried back to Kentucky, where he remained quietly and apparently satisfied for two years, when he again left his home in Kentucky, and in twenty-eight days was at the above named place in Hanover.

What perhaps renders the last trip more singular is, that he left his home eight days before his owner, who was about to visit Virginia on business.

RUST ON MANURED WHEAT.

To the Editor of the Farmers' Register.

Nelson county, January 5th, 1838.

* * * * * I observed, in a commmnication made to you by Mr. Carter, a statement that the manured portions of his wheat field at Shirley, escaped the rust. Precisely the reverse being the fact here, shows that the same agent produces opposite results on soils of different character, or at least under different circumstances. The manured parts of my wheat field having been allmost totally refined by rust during the last summer, and showing the exact limits manured at a great distance by the very dark appearance of the wheat, satisfied me that excessive stimulation was the cause of the disease here. Had not the season been excessively wet, I think the manure at *least* would have done no harm.

RESISTANCE TO MOTION IN CANALS, IN RELATION TO VELOCITY.

Mr. Russell, of Edinburgh, was called upon to lay before the section the result of certain experiments made by him on the traction of boats in canals, at different velocities. On the general principle of the resistance of fluids to bodies moving in them, was grounded the conclusion that it would be an impracticable thing to move the cumbrous boats upon canals at any but very low velocities, except by an expenditure of power so great that the ordinary methods of conveyance by roads would be cheaper. It was believed, that the resistance would increase with the velocity, by a law so rapid in its variation, that for two miles an hour speed, there would be four times the resistance of one mile; for three miles, nine times that

of one mile; for four, sixteen times; and so on, as the squares of the velocities. Here, there was an obstacle to rapid communication by canals, which appeared insuperable. Mr. Russell has shown that there is practically a circumstance which so completely modifies the application of this principle, that when over a certain point of speed is attained, the resistance, instead of increasing when the speed is yet further increased, in point of fact diminishes. In one of his experiments, he found, for instance, that the resistance to the traction of a canal boat, estimated by a dynamometer, increased with the velocity of its motion nearly according to the law of the squares, up to 7½ miles per hour, being then 330lb.; the speed being then increased to 8½ miles per hour, instead of further increasing, the resistance *fell* to 210lb. The speed was yet further increased, and it increased again the resistance to 236lb.; yet, less, be it observed, than at 7½ miles; 12 miles an hour brought it to 352lb., scarcely more than the resistance of 7½ miles speed. These results, confirmed by a number of others, had manifestly a practical application, and they have been applied to the working of fast canal boats in Scotland. Mr. Russell has devoted himself to the explanation of them. He states, that where the water of a canal is disturbed by any cause, as, for instance, the admission of a rush of water momentarily into one extremity of it, or the impeding of a body moving in it, there is generated a certain wave, whose motion along the canal is altogether independent of the nature or velocity of the impulse given to it, and dependent only upon the depth of the canal; its velocity being precisely that which a stone would acquire in falling down one half the depth of the canal. With this velocity, the wave moves uniformly and steadily to the very end of its motion, moving slower (if the depth of the canal remain unchanged,) but only diminishes its dimensions, until it disappears, and this not for a very considerable space. He stated, that he had himself followed waves a mile and a half; and that they had been traced unbroken for three miles from the spot where they originated.

The velocity of the wave depending on the depth of the canal, it is manifest, that each canal, differing in depth from another, will have a different velocity of wave, and that each part of the canal differing from another, will alter the velocity of its wave, and thus the waves near the shore will move slower than near the centre of the canal, if the side be shallower than the middle. How, then, have these facts their application to the phenomena observed? Thus, in the experiment described above, the velocity of the wave, ascertained by numerous experiments, was eight miles an hour. As long then, as the boat moved at three, four, five, six, or seven miles an hour, it remained in the rear of the wave; the wave had no effect on it, as the law of the velocities was the theoretical law. At eight miles an hour the boat was, in point of fact, on the wave, and it might, indeed, be seen about the centre of the boat lifting it out of the water and diminishing the traction upon it.--*From Proceedings of British Association.*

From the Friend.

MANGEL WURTZEL.

To the Editor of the Friend:—

Knowing thy interest in agricultural affairs, and thinking many readers of "the Friend" would feel a similar interest in the very interesting particulars detailed in the accompanying statement; I send thee the following relation of them drawn up at my request by the friend himself, and of the accuracy of which there can be no doubt. I think the produce of the cow beet so great, and so well adapted to feeding cattle, particularly on small farms, that I am desirous of giving a wider circulation to the accompanying particulars, in order to induce our country friends to give them further trials. C. W.

Particulars relative to a crop of beets, (mangel wurtzel) raised in the season of 1837, on the farm of Isaac C. Jones, called Rockland, on the banks of the river Schuylkill, in the neighborhood of the city of Philadelphia, viz:—

Nett measure of the ground on which they grew was 67 square poles. Add for the headland or turning ground, 4 do. Total, 71 square poles, being nine less than half an acre.

The produce on the above mentioned ground, excluding the leaves, and confining it entirely to the roots, amounted to four hundred and thirty bushels, agreeably to the measurement of Joseph Berry, the farmer who attended to their culture for the said Isaac C. Jones throughout the season. On weighing a portion of these beets, it was ascertained they would average fifty-five pounds per bushel, making an aggregate of twenty-three thousand six hundred and fifty pounds, or a little over ten and a half tons (of 2250 pounds each,) being at the rate of twenty-three and two-third tons to the acre, or nine hundred and sixty-nine bushels.

Many of the above-mentioned beets weighed from seven to thirteen pounds. One that was particularly measured and weighed, produced the following result, viz: Twenty-seven inches in circumference, and weighed thirteen and a half pounds.

The produce would have been considerably increased had not many of the seed proved defective, and the plan of transplanting resorted to; but the latter, if well done, answers an excellent purpose.

The above-mentioned ground was accurately measured by said Joseph Berry, and the subscriber, this 11th month, 8th, 1837.

ISAAC C. JONES.

From British Husbandry.

REPORT OF A FARM OF NORTH HAMPSHIRE, (ENGLAND.)

By Henry Gawler.

Introduction.

The general rules and maxims which writers on agriculture have attempted to establish, are found so liable to exceptions in their application, that they are of little service to the generality of farmers, and are founded on a refinement of practice not calculated for persons whose education must necessarily be limited. Many of these works presume the readers to be acquainted with the elements of chemistry, with the component parts of earths, and a variety of subjects which cannot be understood by persons who are, in general, strangers to the technical expressions by which such information must be conveyed. But, even if they were furnished by a competence

of instruction for such purpose, it is doubtful whether much benefit would be derived from it. The most experienced farmers confess, that the powers and capacity of a soil for production—the best mode of working it, and extracting the greatest return at the least expense—can only be ascertained by actual trial for a series of years; and that the external appearance of the land, or even of the growing crops, cannot be relied upon as sufficient indications of its value. In general, farms of any extent contain varieties of soil, frequently intermixed with each other so irregularly, that it is impossible to class them in a manner which any theory respecting their distinct qualities would recommend as most advantageous for their management. In one field are often to be found clay, gravel, and chalk, strong and light sands, arranged in patches, which do not admit of any separation for practical purposes; and such fields must receive, in all their parts, nearly an uniform mode of culture, the same number of ploughings, the same quantity of manure, and the same rotation of crops.

From these circumstances it does not appear probable that any great nicety in the practice of agriculture, founded on chemical tests or upon theoretical doctrines, can be generally introduced.

This difficulty is increased by the disposition of laborers upon a farm to resist all innovation in their usual routine of practice. A change of system requires a corresponding change in their habits, which are quite mechanical, and in the commencement supposes, in those who are to be its instruments, some exertion of thought and attention to which they are unaccustomed. The laborers have no obvious personal interest in the success of any experiment; they foresee no increase of wages, of ease, or comfort; and, without being in any manner worse men than the rest of their species, they remain stationary in their acquirements, because they have no visible or palpable inducement to urge them on to improvement. The habits and practice of the small farmer and peasantry in general, if they be investigated, will be found to originate in indolence of mind and body. They adopt such expedients as require the least thought, attention, and labor, to effect their purpose. A comparison of the effects of this system with the result of a change, and the calculation of the advantages to be derived from increased activity and expense, usually exceeds their powers of comprehension.

For some few years previous to the commencement of the present century, and for many years after it began, corn bore a price, and capital applied in farming produced a profit, which tempted persons of good education to engage in the employment; and its theory and practice were examined with the industry and acuteness which the enlivening prospect of wealth and success is sure to excite. The great causes of this gradual, and then increasing rise in the price of corn, was not at that period generally known. They are now admitted to have been the combined effect of a monopoly of manufactures and commerce enjoyed by this country, a depreciation of the currency, and a vast increase of the public expenditure, the means of which were furnished by loans and taxation; but the landlords for a length of time attributed this change to circumstances which they held to be accidental and occasional, and were not disposed to consider it as a ground for the augmentation of their rents, and many were bound by the terms of leases which had been previously granted.

It was at this period that the press teemed with books on agriculture; and farming was represented, during this brilliant era, as a science with which our ancestors were little acquainted. The rocks of Scotland, and the chalks of England, were presumed to be barren, because we were ignorant in what manner they should be cultivated. The mines of Mexico and Peru have hardly been described in more seducing language; and it was only because the subjects for this picture were too close for inspection to admit of the delusion being complete, that great fortunes were not made at the expense of misguided individuals.

From this dream the people of this country are hardly yet awakened; but farmers in general are fast returning to their occupation as a trade, in which, for the benefit of the country at large, the individuals who are engaged in it must be exposed to a severe competition with each other, be subjected to a rigid economy in the conduct of the details, and to a forbearance and privation which, under ordinary circumstances, is not, perhaps, in a similar degree exacted from other laboring classes. The trade of a farmer rarely affords the means of accumulating a fortune. The eye of a master is required to conduct the details with advantage, and his power of personal inspection must be restricted to a few hundred acres. The produce is limited; no extent of connexion can increase his customers; no skill or activity can augment indefinitely the articles he has to sell.

The science of agriculture has undoubtedly been greatly improved within the last thirty years, in all its departments, and further progress may be made in it. But the impulse it received from high prices no longer exists, and whatever advance is now made will be gradual and slow. It is probable, however, that the limit of the highest state of cultivation is not so far distant as we may suppose it to be in arts and manufactures in which new combinations of the materials are employed, and new machinery is furnishing constantly greater facilities in operation, and some addition to the former excellence of the articles produced. But in articles which are the produce of agriculture, human science and industry have not the same advantages. Climate and soil are the main instruments by which all vegetation is raised. Man has no control over the first, and much less over the last than is generally supposed. There is in every soil a certain natural power or strength of production, technically termed by the farmer, the staple of the land, which evidently forms the boundary that limits the benefit of attempted improvement. The soil may be combined with ingredients which may render it unhealthy to vegetation, and manures and cultivation may neutralize or destroy their effect. Where such ingredients do not exist, manures may stimulate the land to act upon the crops to a degree it would not have done without their application; but experience teaches beyond all doubt, that working and manures may be applied to an extent that may be injurious, and when they are employed beyond the measure which the state and strength of the land require, the crops of corn are not increased in quantity, and do not improve

in quality. The observation is peculiarly true as to the thin light soils of the district hereinafter described, which lie upon beds of coarse calcareous rubble—the stratum interposed between the surface soil and the chalk. The depth of ploughing in them is necessarily confined, and new soil cannot be gradually turned up and incorporated with that which was previously cultivated.

It requires caution in recommending new experiments to farmers; they should try them upon a small scale, unless they have succeeded in circumstances similar to those under which they are proposed to be introduced. The practice of every district is followed by successive generations, without any investigation as to its causes and merits, but in general, the outline and main body of the system which has been adopted, originates in the nature of the soil, and in local circumstances. It admits of little change, except in its better execution, in the improvement of machinery, in the breeding of stock, and treatment of their diseases, and in a more convenient distribution of the fields and farm-buildings.

The instruction adapted for the state of information and habits of the generality of farmers, will be best conveyed by detailing the management of a farm comprising land of various qualities, but where none is much above or below a medium between the best and the worst, and where the management is carried on by the usual system of broad-cast sowing—without any very peculiar selection or refinement in the implements and machinery.

Description of the farm.

On a farm situate in the north of Hampshire, consisting of about two hundred and thirty acres, the writer, assisted by a bailiff, has succeeded in deriving a net average profit from its produce, much more considerable than any rent he could have obtained from a tenant, and has had, besides, the advantage of keeping the property in a state of neatness, the fences in a state of repair, and the land in progressive improvement, uninjured by exhaustion—benefits which, probably, are not to be derived, or expected, from any hands but those of a proprietor.

The land of this farm contains three sorts of soil:

1st. Clay of a very binding nature, mixed with gravel;

2d. Gravel mixed in many places with a much less quantity of clay than the former contains, and occasionally a proportion of darkish mould, probably the produce of decayed vegetable matter:

3d. A light-colored soil of a loose texture, from four to seven inches deep, covering the rubble which lies on the top of the bed of chalk, the substratum on which the whole land of this country ultimately rests.

The farm consists of nearly equal quantities of each soil, sometimes distinctly separated from each other to a considerable extent, but often so intermixed that no division for any practical purpose can be effected. Whenever such division is practicable, it has been made, as undoubtedly each quality of soil requires a different rotation of crops and different quantities, and, if they can be had, different qualities of manure.

The general aspect of the farm inclines to the south, but about sixty acres are exposed to the east and north. The whole is comprised in one fence, and is intersected and bounded by good roads.

The buildings are inconveniently disposed. They lie at one end of the farm—a situation, for obvious reasons, most objectionable.

There is no town in the neighborhood from which any considerable supply of manure can be procured; and the little that can be obtained is purchased at an expense which is hardly compensated by the increase of produce, with the exception of wood, coal, and peat ashes. The two first are collected from the houses and cottages, and the latter is brought, by means of a canal, from more distant parts.

Manure, therefore, can only be obtained from the common and usual sources of the folding of sheep, the stable, and the farm yard, with such occasional addition of mould and decayed vegetable matter as can be collected on all farms.

Use of Chalk.—The surface soil of this part of the country rests upon a bed of chalk, which frequently in spots is found to be of a soft and unctuous nature, and crumbles into very small fragments and powder by the effects of rain and frost.—Whenever the chalk can be obtained with these qualities, it contributes essentially to subdue the tenacity of the hard and compact clay, and to render it more ductile and yielding to the operations of the plough and harrow. When this chalk has been laid on the gravel, mixed with but little clay, it has been found eminently useful, by its quality of retaining moisture, and, perhaps, by chemical changes it may produce upon some ingredients contained in the soil which are unfavorable to vegetation. It is applied in a quantity sufficient to afford a covering of an inch or an inch and a half in thickness, and permitted to remain exposed until it is well pulverized by the effects of frost and rain. This sort of chalk has generally been selected, and carried in carts from the pit from which it has been dug during the hard frosts, when there is little other occupation for the men and horses, or in summer, when the land can bear the pressure of the loads. The common practice of digging pits upon the spot intended to be chalked, is objectionable; it defaces the surface of the ground by leaving permanent holes in places from which it was extracted, and, being thus taken without selection as to its quality, is frequently much less adapted to the purpose it is intended to answer.

The effect of laying this chalk upon the second sort of land, in which the gravel is intermixed with the small portion of clay, has been most remarkable, and in every instance where it has been tried, uniformly most beneficial. Previously to the application of the chalk, this part of the farm, although manured, folded abundantly, and trod well by sheep, to condense the soil, was extremely precarious in its produce, and the expense and care bestowed upon it were rarely compensated by a corresponding return.—The wheat grew freely at first, and continued to bear a very favorable appearance until the spring, when the ground assumed a spongy, hollow texture, the plants acquired a dark brownish hue, died in considerable quantities, and the remainder produced at harvest from twelve to sixteen bushels per acre of light corn, with the straw invariably stunted and blighted. From the time the land was chalked in the manner I have before described, these unfavorable tendencies of the soil were

corrected. The same land now produces from twenty-four to thirty bushels, of excellent quality; and in no instance has any recurrence of its former unhealthy condition been observed. The mischief was not confined to the wheat crop: the barley, oats, tares, and clover, suffered in the same proportion, and have equally derived benefit from the chalking.

The value of chalk, for the purposes I have mentioned, does not extend, on this farm, beyond the first and second qualities of land, the hard compact gravelly clay, and the gravel with the less proportion of clay: when applied to the third quality of soil, the light-colored loam, its effects appeared to be injurious; probably this soil was already sufficiently mixed with it, which rendered the addition, if not detrimental, at least useless.

Rotation of crops.

The best soil on this farm is the compact gravelly clay. It is cultivated (except the course be interrupted by very unfavorable seasons) by the rotation of crops generally adopted by the best farmers in this part of the country:—1st, wheat; 2nd, turnips; 3rd, barley; 4th, clover and rye-grass. Occasionally, after two or three wet seasons, instead of sowing wheat on the clover lay, the land has been permitted to lie fallow the ensuing summer, has received three good ploughings, and the earth been well pulverized by repeated harrowing and rolling. The practice of fallowing lands of any quality has been objected to by many eminent agriculturists, as unnecessary, and as not conferring any benefit proportioned to the loss of one season. It is a question which can be resolved only by the experience of a considerable length of time, and the calculation of the loss or profit cannot be very satisfactorily made. But the system, as applied to this sort of land upon the occasions to which I have referred, has certainly improved the succeeding crop, especially in its quality.

1. *Wheat.*—The wheat generally sown on the best land, and on that which is in high condition, are the white sorts; and of these sorts, the preference has been given to the velvet-husked. This wheat, when it enjoys the advantage of being sown on land in high condition, is equally productive with the brown, and sells from thirty to forty shilling per load higher. The straw is usually short, compared with that of other sorts, and therefore less liable to be beaten down in stormy seasons; and the fur upon the husk appears to afford considerable protection against the blight or mildew, one of the destructive scourges of our climate. This wheat should be cut as soon as the internal part of the grain is set, and when upon pressure, it is found the milky fluid is absorbed. It will ripen quickly as it stands in the shock. When thus cut, the sample is always brighter, and clearer, and weighs heavier, than when it is suffered to remain longer in the ground. When the harvest is late, and those obvious causes of blight, the warm drizzling rains and morning fogs, are to be expected, the hazard of exposure to this mischief is diminished; a week is often of importance at this critical period; and by being in advance upon the general commencement of the harvest, laborers are more easily obtained, and the wheat secured by means of additonal hands, which cannot afterwards be obtained.

On the second and third qualities of soil, this white wheat does not on an average succeed well. In favorable seasons, and when these portions of the soil have been in high condition, it has produced an ample return; but in the event of a dry, or very cold and wet summer, the crop, compared with that of the brown wheat, planted under the same circumstances, has been deficient, the ear imperfectly filled, and the grain meagre. The red-straw Lammas has been found the best adapted, on an average of years, to the two last qualities of soil. It appears to resist better the bad effects of unfavorable seasons; and, from the depth of its color, it disguises better any injury it may have sustained.

Sowing.—From three to four bushels of wheat and from five to six bushels of barley, are sown to an acre. The wheat crop, upon an average of a number of years, has yielded twenty-six bushels per acre; the barley crop, eight sacks per acre. In the most favorable seasons, the average of the wheat has been rather more than thirty-six bushels per acre and in the worst seasons, when wet and cold prevailed, as in 1828 seventeen bushels per acre.

Period of sowing.—In many parts of this district, upon very light land, the wheat is sown, if the season permits, as early as the end of August; but upon the farm now described, none is sown earlier than the last week in September, nor later, if it can be avoided, than the middle of November. If sown earlier than the first-mentioned period, it grows rank, and mats together in warm and long protracted autumns, and in this state it suffers from a succeeding alternation of frosts and wet; if sown later than the last-mentioned period, especially on the second and third qualities of soil, it hardly shoots its roots to a sufficient depth to prevent them from being loosened, or partially exposed, and often, in considerable quantities, thrown entirely on the surface, by the swelling of the ground in frosty weather.

Tares.—The ground from which the wheat has been reaped is ploughed as soon after harvest as other works, indispensibly necessary, will permit. A portion of it, is sown with winter-tares, the latter end of September. This crop is of great value, if it be not injured; but it is so liable to be thinned by the alternation of warm days, and cold winds. and frosty nights in spring, that it cannot be relied on as a certain resource for stock. For this reason, the larger portion of land intended for tares is sown in February, March, and April with the sort called the spring-tares, mixed with a bushel of oats to an acre. They are evidently a different plant from the winter-tares, the leaf which first expands is different, the seed is larger, it grows with more luxuriance, and produces, in general, a heavier crop. Within these few years, a variety of the spring tare has been imported, probaly from Holland, and sold in our markets under no fixed name. This seed is small, like the winter tare, and springs up with a similar leaf; but it throws out more numerous branches, and has a coarse and hardy appearance. The stem is shorter, and it preserves an erect position longer than the varieties in common use. It succeeded well on the second quality of land.

Tares afford a main supply of food for stock in the month of June, and part of July. If the crops be luxuriant, and the season wet, they should be cut with a scythe, and put into cakes for

the sheep. If, under such circumstances, this plan be not adopted, a third of the crop will be wasted.

The experiment of making tares into hay has been tried on this farm; but it cannot be recommended as a general practice. Wet is very injurious to them during the process, and, when made in the best seasons, they are by no means a favorite food with cattle. The sheep feed upon them in this state with reluctance.

II. *Turnips.*—The remainder of the ground from which the wheat crop was taken, is sown in the spring, and during the succeeding summer, with turnips, of which a very considerable portion are Swedes; the residue are the tankard, the globe, and, towards the autumn, the green rounds. The Swedes, except in very unfavorable seasons, succeed well on the first and second qualities of soil, but on the third quality of soil, they rarely swell, and grow with the freedom which renders the interior of the bulb firm and mellow. They increase slowly on this last soil; the rind is thick, the external flesh is tough and fibrous, and betrays the same appearance of want of proper nourishment, which all esculent vegetables exhibit, when planted in soils which are defective in fertility, or not congenial with the nature of the plant.

Drill husbandry..—The system of drilling turnips has been tried on these soils, but the result has not been encouraging, and upon an average of years the broad-cast sown have the advantage. Two methods were followed—the one by depositing rotten manure in a furrow, covering it again with earth, and drilling the seed on the ridge—the common practice of the north; the other by drilling them in rows at two feet distance, when the ground was levelled and prepared as for broad-cast sowing. But both methods, on the first and second qualities of soil, are liable to nearly the same difficulties and objections. Notwithstanding all attempts to subdue wholly the tenacity of the hard gravelly clay by the means of chalking, it breaks up under the plough and horse-hoe, in dry or very wet weather, in large clods or masses, which frequently bury the plants when small, or leave their roots exposed to the air. The resistance of the compact clay and stones in the first quality of soil, and of the stones in the second quality, disturbs both instruments in their operation to a degree sufficient to make it hazardous to approach very near the rows, and the plant loses the benefit of having the earth loosened about it—a process which tends so essentially to promote its growth. In a district, also, where the drill system is not genenerally adopted, the laborer who thins the plants with the hand-hoe interposes his objections. He finds plants in rows more difficult to thin than the broad-cast: it requires a change in his mechanical exertion of limbs.

The advantage mainly derived from the drilling Swedes on ground levelled as for broad-cast sowing, consists in the means the system affords of covering them, before the approach of winter, with mould by the assistance of a small plough. This was usually effected in the middle of November, in time to prevent the rooks, larks, wood pigeons, and game, from attacking them when their other accustomed food begins to fail. The larks, and perhaps other small birds, bore small deep holes, in which the water settles and rots the heart of the plant. Hares consume a portion of the bulb, but the remainder often continues sound. The Swedes are by this method preserved fresh and uninjured. They did not appear to suffer in any respect from the covering, and in the spring the rows are turned out by a plough as they are wanted for use. Upon land which permits the drilling of Swedes to be practised with advantage, this mode of preserving the bulb may be safely recommeded. It probably has been adopted by other farmers occasionally; but examples of this plan, it is believed, rarely occur.

It is the common custom to permit the Swedes to sprout out in the spring for the feed of the lambs, but the bulb is thus materially injured. Each shoot supplies its growth by a mass of roots which strike into the bulb, and fill it with hard fibres. Its juices are drained, and it becomes impenetrable to the tender teeth of lambs, and is only destructible at the expense of the stronger teeth of the ewes.

As soon as the shoot has begun to spring with any luxuriance, the method has sometimes been adopted of pulling up the bulb, and leaving them spread about the ground for the use of the stock. In this state they become mellow, but remain firm and juicy often until the end of May, and beginning of June. When the season arrives for sowing with barley the ground on which they had grown, they were removed in carts to some grass lay, and there again spread out for the sheep.

After many years' experience, no crop has been found more useful on this farm than Swedes, and none which, on an average, affords, a more secure and certain resource for stock. They are the favorite food of sheep, horses, cows, and pigs; by care they can be preserved far in the summer; and it is hoped it will not be thought disrespectful to the human species, when it is added that the Swedes compose a considerable part of the nutriment, from predilection and choice, of the young laborers, the boys who work upon the farm. They appear to agree well with the constitutions of persons blessed with such powerful and healthy digestion.

The other turnips are sown broad-cast, and managed in the usual method.

The period of sowing.—The value of all systems of farming must be determined by their effect on an average of a number of years. In some seasons it answers well to sow the turnips early; the Swedes as early as March, and the beginning of April, and the other turnips in April and May; but in this part of the country, the practice is not to be recommended as a system. During the cold weather of the early months, the plant springs and grows slowly. It assumes a stunted appearance, its tender leaves are long exposed to insects; a thickness at the top of the root, partaking of a premature disposition to form a bulb, accompanied by a wrinkled rind, indicates a state of disease, from which no favorable circumstances will afterwards wholly recover it.

Towards the middle of June, the air and earth have been considerably warmed; the plant then springs and grows quick, escapes soon through its tender stages, and will generally produce a more abundant crop, and of far better quality, than when it has been crippled and stunted by unfavorable weather in the earlier season.

The turnips, in general, are consumed by the sheep on the ground upon which they grow. No

inclemency of weather prevents this practice on the second and third qualities of land, and it is then beneficial by the treading and consequent condensing of the soil; on the first quality of land in a very wet season of long continuance, and when the ground is soaked with moisture, this practice may be injurious. In such cases, the land is rendered too tenacious by the pressure of the stock, and the health of the sheep might be impaired by lying on ground so saturated with water. They are then removed to a drier spot. But such instances rarely occur. The whole of the farm slopes to different aspects, and a continued drainage is thus effected, which assists materially the absorption by the earth, which is, in some degree, always taking place.

The whole farm may therefore be considered as a good turnip soil—a valuable quality in ground of medium worth. Upon such soils the turnip is the great instrument of improvement. No crop upon a given surface of such ground affords so abundant a bulk of food for sheep, and none contributes to produce more manure. The lighter lands are condensed by the treading of the stock, the stronger are, in moderate weather, kneaded into a consistence very favorable to wheat, and the ground is cleaned by the frequent hoeings which are indispensably necessary to promote the growth of the plant. Since the introduction of the turnip, in considerable quantities, in agriculture above a century ago, its use has been progressively extending, and has laid the foundation, on the lighter soils, of the excellent cultivation which now prevails. Fifty years ago this plant was little known in the district where the farm now described is situated. Within that period the crops are doubled. The stock of sheep on the same quantity of land is doubled, and their health is less precarious. Turnips afford a change of food; and for such change all animals have a strong desire; they are a resource of great importance when the hay is injured by wet seasons; and as wet seasons are favorable to turnips, it is a resource which rarely fails.

The common turnip continues to be a wholesome and nutritious food until the very cold weather commences, towards the end of November, by which time either the nature of the turnip or the powers of digestion in the sheep appear to be affected; and so prejudicial upon this farm are they esteemed to be, at this season, to ewes heavy in lamb, by creating wind and inflating the stomach and bowels, that the quantity given is very cautiously allotted. The best corrective is an allowance of hay, which is often too long delayed, from mistaken motives of economy. The ewes suffer frequently materially from this neglect, and the strength and health of the whole stock are impaired. It has been thought, that by an allowlowance of a portion of Swedes, together with the common turnip, the hay might be omitted with less danger. The Swedes, though ranked usually under the common term of turnip, are a distinct species of plants, in which the elements which constitute nutriment exist in much greater abundance. Upon this farm, from these motives, the use of Swedes often commences early in the autumn. They are scarcely ripe until the middle of November, and continue to grow and swell until that period. But in their imperfect state, they supply far more nourishment than the common turnip, and prepare the stock for sale at the fairs in October and November in a manner not easily accomplished without their assistance.

III. *Barley.*—The barley-crop is sown after the turnips. The land requires more or less ploughing, according to the quality of the soil, and the state in which it is found, after the season for the working of it commences. The compact, gravelly clay, if the turnips have been fed off during wet weather, breaks up in large clods, and requires to be reduced by the roller; and at least a second ploughing given before the barley can be safely sown; and if clover be sown with it, it renders this process indispensable. On the second and third qualities of land, one ploughing is quite sufficient. The sowing commences early in March, and continues until May, by which period the Swedes have been removed from the turnip land, if any remain, to some grass-lay. The time of sowing, when on compact, gravelly clay, must, in some measure, depend on the season. It cannot be worked in very rainy weather. If any very hard storms of rain succeed the sowing, the surface runs together so closely, that the air is prevented having access to the seed, and its vegetation is obstructed.

The two other qualities of soil are not exposed to this advantage.

It is customary in many counties, on light soils, to sow barley in the month of February. This practice is followed by many farmers in this district.

In barley sowing, as in sowing all other crops, it is always to be considered what system succeeds the best, upon an average of several years; and beyond a dispute, upon an average of years, the early sown barley produces the largest crops, and the finest grain. Until the end of March, the sowing may be considered to be early; and it is from the sowing made during that month, that the best barley on this farm has been obtained.

The plant which springs from the February sowing is apt to be injured by the frosty nights in March. Upon the compact clay, it turns yellow from this cause, and rarely afterwards grows with the same luxuriance and vigor, as the plant which has escaped this danger.

The barley grown on the compact clay is of a coarser quality than that which is produced from the soils of the second and third qualities, but the crop is more abundant, and thus in some measure compensates for the inferiority. That which is produced on the light chalk soils of this district is well calculated for malting; the skin is thin, and its color rich, but light; but it never equals, in fulness of meal and plumpness of appearance, the barleys grown in Staffordshire, and on loamy lands.

The barley of this district is of one sort; it is pretended there are some varieties to be found, which are more productive than that in common use, but the difference between them is not easily detected. It is not unusual to apply some new name to a sample brought into the market, and to represent it as being favored by some especial quality. Such expedients raise its price for the season, and the imposition is sometimes successful to that extent.

IV. *Grass.*—The grass crop succeeds the barley, and consists, generally, of the common red-clover and rye-grass mixed, or of sainfoin.

The first quality of soil is that on which the clover is most productive; but on all of them this crop is uncertain. An alternation of wet and frosty weather during the winter frequently destroys a considerable portion of the plants; and a dry and cold spring impairs their strength to such a degree that no favorable weather will afterwards restore their vigor.

Rye-grass.—Under these circumstances, the rye-grass often constitutes the main bulk of the crop when the field is mown. It is much more hardy than the clover, and contributes to shelter and protect its companion. With all these disadvantages, however, no substitute has been found to supply the place of clover, and it continues to hold its station steadily in the rotation of crops. A portion of it is generally fed off by the lambs and ewes, and the remainder is cut for hay as soon as the rye-grass blooms. Farmers in this district are sometimes tempted to leave it standing, in hopes of rain and increasing growth, to a period rather later; but the augmentation of bulk during so short a period cannot compensate for the loss sustained in the succulence and tenderness of the stalk. In a very short time after the appearance of the bloom, the stem of the rye-grass becomes fibrous, hard, and dry, loses in weight, and is far less acceptable to cattle, and less nutritious. The same observation applies to the clover; but in clover, the process towards maturity is not so rapid; its succulence is not so soon exhausted, and more delay can be allowed. On this farm, however, the moment the rye-grass forms its bloom, cutting is commenced, unless the weather should be wholly unfavorable; and experience has confirmed this system, upon an average of years, to be the most advantageous. This crop forms a considerable portion of winter store for the feed of sheep, and when it happens to prove very deficient, exposes the farmer on these soils to difficulties, and sometimes compels him to send a portion of his stock during several months, from November to April, to districts where richer soils produce more abundant crops. Such lands are found in Wiltshire, within the distance of twenty or twenty-five miles, and sheep are usually kept well upon them, at an expense varying from six shillings to eight shillings per head, for the season.

Sainfoin.—All the soils upon this farm are well-suited to sainfoin, but it certainly grows with more luxuriance on the compact, gravelly clay, of the depth of ten or twelve inches, lying in contact with the substratum of chalk. The sainfoin will not flourish on deep clays which hold much moisture, and which are not drained by some sub-soil of a less retentive nature; but on the shallow clays, resting on chalk, or limestone, it is very productive. On such soil it grows with a stem and leaf more rank and coarse, than on the second and third qualities of land; but the hay made from it is better calculated for horses than for sheep.

The sainfoin is the most valuable artificial grass this district possesses. The dryest seasons rarely essentially injure the crop; the most wet appear only to increase its luxuriance of growth, and thus, under all circumstances, it may be depended on, if it can be converted into hay, as a certain resource for a farm. No food is more grateful to sheep; and the horses, if liberally fed with it, are kept in good working condition without corn. It remains longer in the stack uninjured, than clover and rye-grass hay, which is generally less condensed; it is penetrated by wind and heat with less facility, and a less portion of its nutritious qualities is carried off. Sainfoin hay, when stacked in good condition, is equally good in the third year.

The sainfoin should be cut as soon as the main bulk of the flowers are ready to open; when cut in this state, and made into hay, it weighs more, lies much closer in the stack, and is far more nutritious than when permitted to remain till some of the flowers have expanded, and begin to fade. The loss in apparent quantity is amply compensated by the better quality of the hay.

The plant of sainfoin does not till after the second year arrive at its full vigor and strength, and therefore it is usually, in this district, sown intermixed with the hop-clover, to make up the crop; but it is doubted whether this practice is beneficial. The sainfoin plant is evidently weakened and stunted by the overpowering growth of the clover, which arrives at maturity in its second year; and it is questionable whether the sainfoin ever recovers the injury it thus sustains. As the sainfoin is intended to remain for five, or perhaps six years, and is to be considered as the main object of attention; an injury which spreads its effects over three or four years, by a diminution in the crops during that period, cannot be compensated by the supposed addition of a third, or a fourth, to the crop of the second year. In all cases on this farm where the experiment has been tried of sowing the sainfoin alone with the barley, the plants have invariably been more healthy, stronger, and more numerous, than when mixed with the hop-clover.

The sainfoin plant is generally permitted to remain five or six years from the time of its sowing; but this period is often too long. The propriety of leaving it for more or less time must depend on the quality of the soil—on its being in high or poor condition, clean or foul; on the compact, gravelly clay, it would last the longest, as being the best soil; but other grasses, the natural produce of such soils, spring up, and in the fourth year begin to form a close tissue or mat about the top of the sainfoin root, which evidently obstructs its free growth, and smothers and destroys a large portion of the weaker plants. On the land of the second and third qualities, the grasses natural to the soil rise less abundantly, and the sainfoin suffers less from their contiguity; but the sainfoin plant itself on these second soils is sooner exhausted, and becomes less productive.

It is doubtful whether a sainfoin lay should not, at all events, be broken up at the end of the fifth year; and in most cases, at the end of the fourth; and this system has been generally adopted on this farm.

In this district, the main difficulty attending sainfoin arises from the necessity of sowing it on a soil on which it has not been planted for at least eight or nine years. All plants used in agriculture evidently benefit by permitting considerable periods of time to intervene between their course of sowing; but in many sorts, as in wheat, and barley, or oats, manure will restore, in a great degree, those ingredients in the soil, which former crops of the same grain may have exhausted; but no species of manure has yet been found in this

district to supply that particular nutriment which sainfoin demands, and of which its growth has deprived the soil; and the land must be permitted to acquire gradually those aliments, whatever they may be, which constitute the food of this plant.

The clover, in some measure, in this respect, partakes of the nature of the sainfoin in this district. It is generally the crop of every fourth year; but the best farmers admit, that even this interval is not sufficiently long to obtain a crop proportionally abundant with those of the intervening grain; and that the highest state of cultivation, in as far as it depends on manure, will not supply the defect of longer intervals between the sowings. They are compelled by necessity alone to follow their present system, as no substitute has been as yet suggested, which is consistent with the rotation of other crops.

The best crops of sainfoin in this district do not exceed two tons and a half per acre, and probably upon an average of a number of years, no farm produces more than a ton and a half, or between that quantity and two tons per acre.

It is difficult to conceive by what means any considerable stock of sheep could have been kept here, previously to the introduction of turnips and sainfoin into common use, both of which were little known a century ago. This country consisted, at that period, of large tracts of down, now broken up, which afforded a subsistence for the flocks in summer; but in the winter they must necessarily have resorted to the richer pastures of other districts, where the natural grasses afforded a sufficient growth to make hay.

Meadow-land.

The natural meadow ground in this district bears a very small proportion to the arable, and hardly enters into the account of a system in the distribution of a farm. Upon the farm now described, about fourteen acres of gravel, mixed with dark loose mould, were highly manured and well cleaned, and laid down twenty years since with varieties of grass seeds in great abundance, collected from the growers near London, and of the sorts which, according to the doctrines then prevalent, were held to be best adapted to the soil. They flourished for four or five years, and promised to form a permanent meadow, but they gradually disappeared, in defiance of the utmost care and attention bestowed on their management, and were superseded by, or acquired the appearance of, the short and wiry grasses, the indigenous growth of the soil, and formed a turf resembling an ancient down. The feed is at all times wholesome; but, except in very wet summers, not abundant. It disposes the cattle to increase in flesh more than in milk. This portion of the land was chosen for this purpose, from its contiguity to the house; but the other qualities of soil have not been found much better calculated for this purpose, and no attempt to fix the finer meadow grasses in them permanently, has succeeded.

None of the soil upon this farm is well suited to potatoes. Upon the third sort of land their quality is excellent, but the crop is never abundant, and cannot be cultivated for profit. An acre is however always planted for the use of the family and the carters and men who reside at the cottages contiguous to the house.

Stock.

The stock in general best adapted to this land are, the Alderney, and smaller race of Norman cows. The Devonshire and larger breeds require richer pasture; and although they are kept in condition, the milk they give is by no means in proportion to the bulk of food they consume. The Norman and Alderney cattle appear to be less affected by the quality of the herbage. It has been customary on this farm to keep one cow of the Devonshire breed, with three of the Norman or Alderney, and to mix the milk, on the presumption, that by being thus diluted, it produces better and a larger quantity of butter. The cream is skimmed, and scalded over a stove, before it is churned. This process certainly renders less churning necessary, gives the butter more flavor, and increases the quantity. In a district where meadow land is scarce, butter generally bears a high price, and perhaps no part of the farm described is so profitable as the small portion of it allotted to the dairy.

Sheep.—The sheep kept on this farm are usually called the South Downs; but they are not the pure race; they are larger, and weigh, when in the usual condition for the butcher, from 60 lbs. to 70 lbs., and sometimes more. They are extremely docile and manageable, and are perhaps better calculated by their weight to knead and condense the soil than those of a lighter description. Their fleece averages about $3\frac{1}{4}$ lbs. for each sheep; the wool is short and varies considerably in fineness, according to the keep. Where their food consists of artificial grasses and turnips, the wool is much coarser than of those which are pastured principally on Down lands, and have to work harder for a subsistence. The practice of folding is indispensably necessary to farming in this district, and no system has been long suggested which can supply its place. The wool is, however, probably injured by the continual exposure to the alternation of wet, and severe frost, during the winter, and it certainly bears no comparison in color, fineness, softness, and beauty, to that shorn from flocks which are sheltered and housed during inclement weather.

Lambs.—It is the common practice here to expose the ewes during the season of lambing in folds in the open fields, without protection from the fall of rain or snow. This is the consequence of the habitual thoughtlessness of the farmers, who, being accustomed from early education to spare all the labor and trouble that absolute necessity does not enforce, neglect the precautions which more vigilance would suggest. The loss of lambs, upon an average, amounts to near one-fifth of the whole. Common sense would appear to indicate the prudence of affording a dry spot on which such tender creatures as new-born lambs may be deposited until they have gained some strength. The ewes suffer at that period nearly as much, and are often attacked by fevers, which affect their milk, and destroy its wholesome and nutritious quality. A fold, under these circumstances, in wet weather, exhibits as dreary and dismal a spectacle as can well be imagined, the lambs trembling with cold, and the maternal affections of the ewes half extinguished by their own suffering. The system is justified by the farmers, on the ground that it renders the flock hardy; but the truth is, that none but the strong survive the

treatment, and probably their constitutions are injured by it.

The sheep with black faces are the favorites of the farmers; but it seems a doubtful test of their merit, whatever it may be as to their beauty. About fifty or sixty years past, a sort of sheep called the Wiltshire, of greater size than the largest Dorset and Somersetshire sheep, with much more bone, and longer legs, constituted the flocks of this country. They are enabled from their strength and length of limbs to ramble over the extensive downs, which have since been broken up. The increase of arable land has banished this ugly race; some specimens, however, even now occasionally appear at fairs, which frighten the delicacy of modern farmers, accustomed to better models.

Pigs.—The common run of pigs in this district are by no means remarkable for their beauty. They are generally of a light color, marked with large black or red spots, or in large divisions of black and white. They are of a hardy, enduring, and active nature; draw their subsistence from all materials they can swallow, and are managed, in general, with slovenly inattention. However, considerable exceptions must be made. The breed is sometimes crossed by the Essex, Chinese, or Neapolitan race, or the pure breeds of these sorts are introduced; but in some few generations, accident or design produces an intermixture, which, after a few more generations, terminates in a recurrence to the common race of the country. Upon the farm described, the event has repeatedly happened, and it is believed that, considering the different qualities of each sort, the merits and defects of the varieties as nearly balanced.

Some varieties of pigs evidently fatten more rapidly and upon a less quantity of food than others; this was found to be the case with the black breed from Essex. but the sort was tender, and were not so equal to the fatigue of attending their duty in the stubbles, and appeared to be very sensible to the effect of cold.

Management.—It is a common opinion in this district, that pigs are not a profitable stock upon a farm, in a quantity beyond that which is necessary for the consumption of the offal produce which cannot be carried to market. This opinion may reasonably be doubted; and certainly upon the farm described, where they are kept to a larger extent than the usual proportion to the size of the farm, they indisputably give an ample return of profit. A quantity of Swedes is usually reserved for their use. The Swedes are a favorite food with them, and apparently they prosper upon them more than upon any other food which is not the produce of grain or pulse.

In fattening pigs, an opinion is also entertained, which springs from indolence and thoughtlessness. It is held that changing the litter, and cleaning the styes, protract the time of the animal's arriving at his required fatness, and that filth contributes more to his health and prosperity than cleanliness. This opinion is not the result of experience, for very few persons here have tried the alternative of cleanliness; but it is a theory they have derived from their progenitors, in which they will persist if they be permitted. No analogy of reasoning as to the effects of filth on other animals shakes their belief, and the practice can only be overcome by the determined authority of a master.

Establishment.

The farm described is worked by a bailiff, a head carter, and an under carter, a shepherd, two boys, and two laborers, in constant pay, and seven horses. Except during the hay and hoeing seasons, weeding and harvest, further assistance is seldom required.

The size of the farm described, is by no means recommended as a model. The extent of it was unavoidably thus circumscribed. Neither the bailiff nor shepherd has full employment; the bailiff might superintend one hundred and fifty or two hundred acres more, and the shepherd might equally well manage three hundred and fifty sheep. A farm, however, from three hundred to three hundred and fifty acres of arable land, affords ample business for a bailiff who engages in any portion of the working duties, keeps the men and horses in full activity, and makes the most of their strength. It is as much as his eye and attention can command, if he overlooks all the various proceedings, and by foresight and diligence guards against the casualties which are apt so often to occur from the negligence and careless habits of the individuals who are employed as carters and laborers.

Horses.—The horses selected for the service of this farm rather are of fine bone, above fifteen hands high, with strength quite sufficient for team and plough, but which move with a quicker step than those with large heavy feet, hairy fetlocks and thick legs, a species, however, in very common use. The former are also less subject to disorder than the latter. Carters frequently take a considerable interest in the beauty and good looks of the cattle under their management, and from those motives, bestow more care upon horses, which attract their attention. It requires very superior merit in a vulgar coarse-made horse to become a favorite, or even to obtain for it a just share of dressing and food. Beauty in all animals always engages even the most common minds in its favor, and generally it implies some useful corporal quality. The carter's regard for his cattle is purchased cheaply, at the addional expense of a few pounds per head for a horse. Every person the least conversant with farming is aware how completely the horses are at the mercy of the persons who drive, feed, and dress them. It is advisable to consult and indulge their wishes and prejudices, if they lead to no essential mischief; their predilections are sometimes harmless, and it is frequently difficult to subdue or counteract them.

Implements.

Ploughs.—The ploughs of this district are constructed, with the exception of the handles and beam, entirely of iron, and much reduced in their length and dimensions from those which were employed thirty years ago; they are generally worked by three horses. The binding nature of the soil renders this force so often necessary, that the habit of driving with reins has not become general. So powerful is the effect of custom, that some farmers are yet seen working a soil of four or five inches deep, with four horses dragging the ploughs of the ancient form, and unwieldy con-

struction, at a slower pace than with three horses and the modern instrument.

Thrashing.—The wheat is thrashed on this farm by a machine, and the quickest moving horses are selected for the work; they do more work and do it better. A rapidity of motion is favorable to the thrashing the corn clean. Sometimes half-bred horses with a good deal of bone have been employed on this farm; they are difficult to procure at a moderate price, but in the thashing-machine, harrowing, and rolling, they are unrivalled.

The barley is thrashed with a flail. The machine is apt to strip it off, and does not, therefore, bring it out in a state fit for the market. The two laborers can also be generally sufficiently spared from other work for this employment.

The thrashing-machine is, of course, a very unpopular instrument, and to the use of it, amongst other supposed abuses, the present comfortless situation of the peasants is often attributed. The train of reasoning by which it can be proved that whatever machine saves expense or labor to the farmer must ultimately lower the price of the commodity it assists in preparing for the market, is not calculated to satisfy the laborer. His mind always recurs to the single point of the lost use of the flail. This aversion to the machine has indisputably had the effect of reducing their number, and still more the use of such as exist.

Manure.

Different opinions exist respecting the state in which stable and farm-yard manure should be applied; whether it should be carried out fresh, or be permited to ferment and be decomposed. It is almost impossible to doubt that if an immediate effect be the object, it is better calculated, in a rotten state, to afford nourishment to the plant; but if a permanent benefit to the soil, to a succession of crops, and the amelioration of the greatest extent of land be intended, it is better to apply it as fresh as possible.

By suffering dung to ferment, a great portion of its valuable ingredients are carred off by evaporation, and it becomes much diminished in bulk and weight. The businsss of a farm does not at all times permit the conveyance of it to the fields for which it is allotted, and a part is thus unavoidably exposed to fermentation, but this process may be retarded by frequent turning and by mixing considerable quantities of mould with it Mould should always be placed at the bottom of a dung heap, and, if possible, the heap should be covered with it. The moisture is constantly draining downwards, or passing off in the shape of gas or steam from the top. The covering at the top and bed underneath intercept materially this loss. On this farm, the manure during the spring, autumn, and summer, is carried out as fresh as possible. In the winter it is spread in the sheep fold, to protect the stock from the dampness and cold of the ground. If the dung cannot be ploughed in during the warmer seasons, or conveniently mixed with mould, it remains in the yard where it is better protected from the drying effects of the heat and wind than in the field. The plough follows the fold course as quickly as possible.

Sheep.—The common allowance, in this district, for the number of sheep on a farm, is said to be one to each acre; but perhaps few farmers within it upon an average feed near that quantity throughout the year. On the farm described, about two hundred and thirty sheep are constantly fed on two hundred acres of the land, besides the lambs which fall in February, a portion of which are sold in the October following, together with some ewes which are drafted from the stock. Some sacrifices have been made for this purpose; a less breadth of corn than the usual proportion is sown. It has happened three or four times in the course of twenty years, when both hay crops and turnips have failed to a considerable extent, so that about fifty lambs have been sent to winter in other places. By this plan of allotting more land than the usual proportion to stock, the arable is kept in higher condition, and the plant on it is enabled by its vigor to resist the mischief to which, in unfavorable seasons, if it were in a weaker state, it would be exposed. The seed and labor are frequently, under such circumstances, thrown away. It is more advantageous to plough, fallow, and clear the land thus uselessly employed, and prevent the accumulation of fresh seeds from crops of weeds which invariably rise amongst a corn-crop, that does not overpower them by its luxriance of growth.

General character of the district.

This district contains no land of better quality than that of medium value; consequently, some branches of agriculture carried on in richer land are here unknown. No horses are bred—no considerable dairies exist—very few cattle are fatted. Some oxen and cows have been prepared for the butcher, by feeding them in stalls upon Swedish turnips and hay; but even that practice is not common. The grazing-land is found only in small quantities, and the quality of it is seldom good enough to forward the cattle sufficiently before they are put in the stall, much less to prepare them for market, without being stall-fed.

Beans and peas are rarely seen; such crops on these soils are very precarious. It is far cheaper to purchase such articles from districts better suited to their growth.

Notwithstanding the thinness of soil which prevails in this district, the crops suffer less in dry seasons than the appearance of the land would indicate. The chalk is retentive of wet, and communicates its moisture to the roots of the growing crops sufficiently to protect them against the injurious effect of heat, and gives them an advantage, under such circumstances, they would not enjoy in land of better quality.

The inferiority of soil is recompensed, in some measure, by the salubrity of the air. The diseases common to very deep or marshy soils scarcely make their appearance; and except low fevers, originating in poverty and want of warmth, no epidemical disorders prevail. The fields have been mostly inclosed under acts of parliament; are of large dimensions, and of a regular, uniform appearance. The hedges are not thick or high, or mixed with timber trees. The whole country is fully exposed to the currents of wind, and in wet seasons the corn is far more easily secured than when a luxuriant growth of timber, woods, and fences impede the motion of the air.

Drill-Husbandry.—The experiment of the drill husbandry was tried on this farm for a succession of years. Neither diligence, patience, nor expense, were spared, aud occasionally the drilled

crops were superior to the broad-cast; but it required a combination of favorable circumstances to produce this result. Upon the compact gravelly clay, the difficulties in wet seasons were insurmountable, and a season was sometimes lost in expectation of weather suited to the drill. Whatever may be its advantages on loamy or sandy soils, it certainly does not succeed on a farm consisting of the soils the nature of which has been described. It has been tried by other persons of this district; but as a system for a whole farm, no one has persevered in it. From the time of Tull (the founder of the drill husbandry), some writers have continued to recommend the practice upon soils of all natures, and attributed the neglect of it to the ignorance and obstinacy of the farmers; but notwithstanding these high authorities, unless instances could be produced of its success upon land like that of this district, it will be doubtful whether writers or farmers are most deserving of such imputations.

Planting.

The planting of trees is not necessarily connected with farming; but it forms a part of agricultural pursuits.

In the soils, the nature of which has been described, no trees of any description grow with luxuriance, without the assistance of trenching the grounds; but when this practice is adopted, they grow with vigor and beauty, and attain considerable size. The depth of trenching depends on the quantity of the soil; in the gravelly clays and and gravels, frequently it may be dug two feet and a half deep; on the light soils the chalk rubble begins to appear at five and six inches; in the latter soils it is not advisable to trench below the depth of a foot.

Neither the larch nor fir is suited to chalk soils of little depth. Whenever they attain a size which compels the root to come in contact with the chalk, they turn yellow and perish soon. But many useful trees flourish in this soil: the beech, birch, sycamore, plane, poplars, and yew, are well suited to such ground.

Capital and accounts.

There are two subjects connected with agriculture which cannot be too strongly recommended to the attention of farmers, but which they generally neglect in a manner very prejudicial to their affairs.

Necessity of Capital.—Farmers in general do not take the precaution of being prepared with funds of ready money, and they are consequently driven to sell their produce from contingencies they do not always anticipate, at times when their commodities must be disposed of to a disadvantage. Franklin has observed, that there is a difference of ten per cent. between *will you sell?* and *will you buy?*—and it is want of attention to this well-founded axiom, that prevents the farmer from being empowered to wait for the question *will you sell?* The farmer is a sturdy bargainer, and will drag out a contention about price to a tedious length; but if his customer be aware that a sale is indispensibly necessary to the affairs of his competitor, the buyer is sure to carry his point. The credit, the show of a little capital, confers an advantage on the farmer in these contests, and can alone put him upon a level with his antagonist.

Accounts.—Few farmers keep any accounts: at the end of the year they make a rough calculation of the value of the capital and stock that remains, and from such computation they collect the amount of their profits or loss. But if agriculture and farming be really a science, and is to be conducted on the most advantageous system, a distinct account of the several heads of expenditure, and the amount of the several distinct articles produced in quantity and value, is indispensably necessary. Without some account of this nature, no reference can be made to ascertain the average amount of the crops, and there can be no means of determining which are raised at the least expense, and which are the most profitable; nor in what parts of the expenditure a retrenchment can be best made.

Many modes of keeping accounts have been recommended, but the objection to them in general is, that the divisions are too refined, and are too complicated, for farmers of common acquirements. They have not time to attend to a minute detail, nor instruction sufficient to render it easy in practice. Some few heads are suggested at the end end of this paper, under which they might arrange their expenditure and receipts; and as they become familiar with the method, they can afterwards be carried into more minute details.

Laborers.

Causes of Distress.—The situation of the laborers, and of the whole class of agricultural poor, has attracted, for a considerable time, the attention of the country. The sources of their present destitute and comfortless state have been examined with industry, by individua.s well qualified to investigate this subject; and it is admitted that the principal cause of their misery is the want of employment. Upon that point there is little dispute. In finding remedies for this increasing evil a differenee of opinion arises. Some political economists propose to leave the laborers to find their own way out of the difficulties. Others suggest expedients to alleviate the pressure for a time. As the complaints of distress are very general in all branches of industry, the agricultural poor appear to be suffering in common with those other portions of the community, whose subsistence does not depend upon a settled income. But the laborer suffers in a greater proportion: his gains in the most favorable periods do not much exceed the amount of the sum required to purchase the bare necessaries of life; he has no superfluities; and whenever a reduction of his profits takes place, no economy can supply the deficiency. The means are withdrawn by which his health and strength, his sole property, can be preserved, and the term poverty is not a metaphor when applied to him, as it often is when used with respect to higher classes, whom a change of circumstances only makes poor by comparison with that which they possessed before. Their means of existence are at this moment so closely pared down, that the reduction of three pence per week is become a serious defalcation of income.

If there be any laws resulting from the institutions that establish property in land which necessarily limit, in a country fully peopled, the share of the laborer to a portion which can only procure

for himself and family a bare subsistence, it is vain to seek any considerable improvement of his condition, and the government can do no more than protect him in the enjoyment of the part allotted to him, and be cautious that they do not, by any of their measures, expose him to unnecessary hardships.

The doctrines and theories of the economists, to explain the principles upon which the produce arising from land is distributed between the owner and the laborer, do not favor the supposition that, in general, the situation of the agricultural poor is susceptible, in ordinary circumstances, of great improvement; and, unfortunately, we find no facts at other periods, or in other countries, to make us doubt the correctness of their reasoning. History does not deal much in the records of the poor; but from the little which can be collected of their state in the early and middle ages and at some later periods, they appear in our country, to have been then subject to greater evils than infest them even at the present moment.

The situation of the peasantry in other countries affords no ground for more consolatory views. The Netherlands furnish an example of a state said to be well governed, and of a fertile country; the land appears to teem with plenty; but no English laborer would exchange his present condition, his comfortless cottage, his small allotment of a wheaten loaf, for the worse hovel and black barley-bread of the Flemish peasantry.

The revolution, and the struggles which preceded it and of which it was the consummation, laid the foundation of the permanent greatness of this country, and of its riches, its powers, and prosperity, ; and it is impossible not to believe that some portion of these benefits were communicated to the working part of the community ; their comfort must have increased, in some degree, with that of other classes, and the period after the commencement of the last century, for seventy or eighty years, was, probably, that in which they had most reason to be satisfied.

A great rise in the amount of the poor-rate, seems to present the best indication for fixing the period at which, during the last century, the welfare of the agricultural laborer began to decline. In the parish in which the farm before described is situated, the whole sum collected annually for the use of the poor and of the county-rate, until the year 1779 and 1780, did not exceed 27*l.* or 29*l.*; and by reference to the details found in the accounts of the overseer, the money so collected was expended in payments of 2*s.* 6*d.* per week, to three or four widows, and occasional relief to persons afflicted with sickness. There is no reason for believing this parish to be circumstanced differently from the others included in the district, and any inference deduced from its example will probably be nearly true as to all. No manufactures are carried on in it; the population is entirely agricultural. Since the year 1783, the population of the parish has gradually increased about a third; few new cottages have been built, but many have been pulled down, so that the means of accommodation being lessened, the inhabitants are compelled to crowd in heaps under the same roof; families are mixed together by necessity, in a manner which deprives a father of any power of selecting the inmates of his house, and all control over the morals and habits of his children is usually lost.

Previously to the year 1783, and for some years subsequently, a few laborers were owners of cottages and gardens, on leases for lives, and they afforded the most favorable specimen of the state of comfort that a laborer might possibly attain. The whole of this class have disappeared; most of them were compelled to sell their property before the expiration of their tenancy, and it is believed no lease has been renewed.

From 1780 the poor-rate and county-rates in this parish, gradually increased, and have since that period, within the present century, amounted sometimes to between 600*l.* and 700*l.* per annum ; whilst the rental upon an improved state of cultivation, which nearly doubled the produce, has certainly not been augmented a third.

Taxation.—The year 1783 terminated a disastrous and costly war, which fixed on the country permanently a heavy weight of taxation, and the war which was concluded in 1815, with so much glory and at so enormous an expense, has certainly not diminished the burthen.

It is difficult to ascertain, with precision, the proportion of taxation which bears upon the laborers ; it falls on the means of their subsistence through so many channels, and in such shapes, that the detail is involved in great obscurity, and the proof of it is exposed to every species of cavil. But it is evident, the farmers will endeavor to seek an indemnity, in some degree, for the burthen which, directly or indirectly, is imposed upon themselves, and compel the laborer to pay some proportion of it by a deduction from his wages. It cannot be prevented by any expedient that will not vest a discretionary power in some officer or magistrate to settle the rate of wages; a method to which the objections are insuperable.

Wages.—The power of making such deduction is placed in the hands of the farmer, at present to a degree nearly indefinite, by the want of employment of the poor. The competition for work amongst the laborers is so great, that they underbid each other, and leave the bargain entirely at the discretion of the master. This authority is, undoubtedly, sometimes much abused, and generally carried to an extent which compels the laborers with families to seek the supply of some part of his deficient subsistence, through the intervention of the overseer and the magistrate.

Excess of Population.—Whether this state of circumstances proceeds from a real excess of population, or from a diminution in the profits of the farmer, which at present disables him from employing a greater number of laborers, the immediate evil is the same ; but these causes differ in their ultimate results. If there be a real excess of population, which cannot be absorbed by some more perfect system of cultivation, or by a greater extent of it, the mischief will be more difficult to remove, than when it proceeds from an occasional depression of profits.

There are three causes which will probably, in this district, operate to prevent this increase of employment: first, the more extensive use of machinery, which, in defiance of its present unpopularity, will ultimately take place; secondly, an extensive conversion of pasture into arable in Ireland ; and next, a more unrestricted importation of foreign corn, to which all the principles now avowed by the majority of the people, and of the able men in parliament, inevitably lead. Whenever

this last point is carried, combined with the cheapness of labor in Ireland, and the fertility of Irish soil, the growth of wheat upon the very light land of this district must be abandoned, and it will resume its ancient state of down.

The general complaints made against the laborer are, his supineness, carelessness and the want of energy. Such complaints are, perhaps, in some measure, founded in truth. These defects arise principally from his being aware of the contracted limits within which he is, during the period of his existence, destined to move, and by his mind being rendered torpid by a dependence on every occasion on the commands and direction of a master. He knows that the utmost exertion of his talents and strength makes but little difference in the reward; no real or delusive prospects of wealth, or ease, is opened to his hopes; nothing is left to his ingenuity or invention; and he is excluded by his insulated station from any familiar intercourse, with the means of acquiring knowledge, or enlarging his views. But such causes will operate equally unfavorably on every class of mankind who are exposed to similar disadvantages, and no peculiar blame attaches to the agricultural laborer.

Poor-laws.

The policy of the poor-laws has often been questioned upon the ground that the laborers are induced to rely upon them as a resource, and that their provisions give encouragement to idleness and indulgence. That they produce this effect in some degree cannot be denied; and if the suffering of the laborers were to be wholly attributed to their own misconduct and to the provisions these laws contain, they should be repealed. But the misfortunes of the laborers are often the consequence of the errors of their rulers, and of contingencies which human reason can hardly foresee. We are indebted to our forefathers for the balance of good or evil of this system; but interwoven as it is in our political existence, humanity, policy, and necessity, appear to forbid at present that it should be abandoned.

These laws are certainly capable of a better administration, and the evils which result from them admit of alleviation. The magistrates do not sufficiently examine the circumstances of the case of each individual and of each family; they establish a general rule by which a certain sum per head, including the amount of their wages, is allowed, equal to the purchase of a gallon loaf each week; and in some places 3*d*., and in others 6*d*. is given for other contingent expenses. This rule is rarely a fit measure of the wants of the persons relieved, and it excludes the consideration of the merits of the individuals, and a scrutiny as to the causes of their wants—points which always should weigh in the magistrate's determination, as his power is discretionary.

Assistant Overseer.—The parish in which this farm is situated has derived great benefit from the employment of a permanent assistant overseer, who is paid for his trouble by a salary. It is his duty to make himself intimately acquainted with the situation of every family or person who usually claims relief, with the amount of his wages, the persons by whom employed, the number in each family, the ages of the children, their health and various wants; and to be prepared at all times to give every information concerning these objects to the vestry or any of its members, without whose consent and directions (except in cases of necessity) no relief can be given. By these means frauds and impositions are detected, and such is the difficulty of practising them, that they are not often attempted. Since this plan has been adopted, the amount of the poor-rates has been gradually abating.

The salary paid to an assistant overseer raised at first great objection to the appointment, in the minds of the farmers of the parish, who saw nothing in the project but an addition to the poor-rate. They acquiesced with great reluctance in the scheme; but the evident advantages resulting from it, in the regularity, order, and satisfaction of the laborers, and the diminution of the rates, have fully reconciled them to the experiment.

The practice of appointing two farmers of the parish as overseers, without an assistant, is objectionable. Such persons are in general sufficiently occupied with their own business, and have neither the time nor the inclination to examine attentively the detailed concerns and conduct of every family claiming relief; they are apt to be governed by partiality and prejudices in the administration of the funds entrusted to their care; and before they have acquired a competent knowledge of the state of the parishioners, the term of their authority is expired.

Character of the peasantry.

In general, the opinions which exist in favor of the poor-laws are more founded on commiseration and humanity, than on any deliberate and deeply considered grounds of policy; and the laborers should not be deprived, by misrepresentation or unjust imputations on their habits and behaviour, of the advantage they derive from such feelings.

We should be cautious in deciding on the general character of any class of society, from observations made on a few individuals belonging to it, who attract attention by their conduct. Whenever a person in the station of a laborer becomes remarkable and generally known, it is usually by some habits offensive to the community, and injurious to himself and his family. It is not the least of the evil consequences which result from such behavior, that the whole body of the individuals of his own rank are involved in common discredit with him. But the virtues of a laborer rarely produce any conspicuous effect. His worth, however considerable, is so darkened by the obscurity which surrounds him, has so little influence on the community, that it presents no prominent feature from which any inference is ever drawn, as to the qualities of his equals and companions. It will not, however, escape those persons whom either duty or inclination induces to examine without prejudice the manners and dispositions of the agricultural poor, that great variety of character exists amongst them, and that the number of those who are inclined to vice does not exceed the proportion included in more elevated classes. Their defects are often compensated by the most signal virtues which can adorn our nature; by an affectionate attachment to their families and children, by a humane and disinterested kindness to their relations and friends in sickness and distress. They make sacrifices in the performance of those

duties rarely exemplified in persons upon whom knowledge and religion have more amply shed their united influence. The laborer will seldom refuse any assistance which is offered by private charity, but in general he is by no means intrusive, and bears his privations with fortitude and resignation. Some of them resort to expedients to relieve their wants by petty offences; but examples of crimes, of great magnitude, are not often found amongst them.

Means of improving them.—The best mode of paying the laborer is, permitting him to work by the piece. He then exerts his full strength and talents, and gains something more than his customary daily pay. It leaves the time of working and the arrangement as to his meals, more to his choice, and, on some occasions, the best and readiest mode of performing his labor is left to his ingenuity. The plan is quite practicable in most departments of farming, and is often advantageous both to the master and the workman.

Medical aid.—The most useful charitable assistance which can be afforded to laborers is a medical adviser. Their destitution prevents their application to the surgeon or apothecary, unless such person is provided for them; and diseases which might be easily subdued in their early stage, are thus suffered to increase; and in the case of fevers often spread the contagion through a village. There is no assistance for which they are more grateful, and none which the public are more interested by policy and humanity in affording. The poor learn from the regular practitioner the remedies for common complaints, and common bodily injuries, and are taught by him the necessity of cleanliness, from the want of which their diseases often originate. They abandon the use of quack medicines, and their own useless or hurtful nostrums. In the parish alluded to, the apothecary is paid a salary, and the duty is performed with regularity, and satisfaction to the poor; from him the best testimony is obtained as to their wants, and he is a useful mediator for them with the overseer and the magistrate.

Gardens.—The nature of the soil in this district does not render it advisable to give the head of a family a portion of land larger than that which is suited to be a garden In rich soils, and in grazing countries, the experiment of allowing each cottager to rent sufficient land to maintain a cow may be tried; but a larger extent of land, of the nature before described, than that which can be cultivated by the spade, would remain unemployed. This land bears nothing useful spontaneously. It is only by manure, cultivation, and considerable labor, that any valuable produce can be obtained. A plot of ground, from thirty to forty poles is as much as the laborer in general desires, and as much as he can keep in condition. But such an extent of land is of essential service to him. It adds some change of food to his table: the work necessary to render it profitable fills up his leisure hours; it employs his children; and, by furnishing a spot where filth may be deposited and buried, prevents its accumulation in the immediate vicinity of the house.

Separate dwelling.—The expedient, however, of allotting land as gardens for the laborers is far from being generally applicable at present, as a mode of relief. A garden, to be protected, must be close to the residence, and few laborers are masters of a separate cottage. Different families are, as it has been stated, usually accumulated under the same roof. This community of existence and possession, in which the good and the bad are mixed without distinction, deprives the industrous of their excitement to labor. They are harrassed by interruption of the idle; they are exposed to pillage, and invariably to the dispiriting hazard of not reaping what they had sown.

These aggregations of the poor are attended with all the disadvantages of a work-house, without the regularity which results from its rules, and the authority of the master. They are filled with dissension and discontent. They promote immortality by the contiguity of the young of both sexes, and, by a familiarity of manners and examples of indecency, deprive even childhood of the interest which innocence usually excites.

Whatever attempts are made to ameliorate the condition of the poor, they must be accompanied by a redress of this destructive grievance. Unless a father has the means of protecting the morals of his children, he cannot be made responsible for their conduct, and if he finds the means are not within his power, he releases his conscience from the obligation. The reproaches for the offences which emanate from these seminaries of disorder attach to the body of the individuals thus promiscuously thrown together; the virtuous lose the credit which belongs to them, and share the imputations with the guilty. Despondency often seizes on the minds of the portion whom nature or habit had formed to feel disgust at vice and immorality, and they linger on in a state of apathy, careless of the present, and hopeless of the future.

It is not easy to suggest remedies for disorders which threaten to sink the agricultural poor into a state of barbarism, and a long lapse of time will be required to re-establish this class of persons in their former state of comparative comfort. Their excess, however, in numbers, (if it be true that it exists,) originated in causes, and sprung from a combination of circumstances, not likely again to arise, and against the recurrence of which the increasing intelligence of the country and the weight of public opinion will certainly guard.

Residence of landlords.—In measuring the quantity of evil which afflicts, comparatively, the different sections of this district, it is impossible not to perceive, that, generally, those in which the owners of the land and persons of edecution are resident, are subjected to the least share of the common calamity. It is difficult for persons of any refinement in their feelings, to live in the midst of a population, dependent in a great measure on their control, and not to interest themselves in its suffering. Wherever such interference is conducted with good sense and activity, authority and example will always succeed in effecting the execution of any which affords a prospect of improving the condition of the poor. The farmer has only a temporary interest in the soil he rents, he has no permanent bond of connexion with the laborer of the parish, and cannot be actuated by the enlarged views which should lead the landlord to consult his own advantage, by contributing to the welfare of the present.

The owner of land who absents himself from his property without compulsion cannot easily justify his conduct. The ways both of good and

evil are left open for our selection, and the absentee furnishes an instance of the liberty often taken in making the choice. Residence cannot be enforced by legal authority, but landed property may be considered as a benefice, on which residence is morally required. The right to property is an institution of society, founded indeed in justice and essential to the prosperity of mankind. But some species of property confer greater privileges, and possess advantages, which do not so eminently belong to others. The owners of land are invested with a power, influence, and consideration, which do not flow, in the same degree, from pecuniary and commercial wealth. They possess the signal advantage of being able to contribute to the prosperity of the persons necessarily dependent on them for a portion of their happiness, without sacrificing any essential interest. They can, by a wise distribution of their property, equally promote its improvement and the comfort of the laborer. They can remove some of the causes which corrupt his morals and repress his industry. They can protect him by advice against his ignorance and prejudicies, expose the arts by which he is commonly defrauded of the full benefit of his earnings, and be his leader and his friend. If landed property confers such powers of doing good, the neglect to exert them is a breach of duty.

Marriage.—Whatever schemes may be proposed for diminishing the wants of the agricultural poor, none must be built on enforcing the supposed virtues of the cloister. The promiscuous intercourse of the sexes and habits of incontinence may be corrected, but the right of marriage cannot be controlled, except by the prudence of the parties, or even discountenanced amongst the poor with safety. The poor-laws are supposed to afford an inducement to the laborer to enter into the marriage state, by the resource they hold out in maintaining his children. But the passion implanted in him by nature, and motives arising from convenience, present irresistable temptations. The want of a helpmate is felt far more by the poor than the affluent: their meals, their cleanliness, their physical comforts depend on the assistance of a wife. The increase of expense is generally compensated by better management and economy: they contract habits of abstinence from love to their children, for whose benefit they will refuse indulgences within their reach. Marriage with them is the source of many virtues, the preventive of many disorders, springs from their wants, is sanctioned by religion and policy, and by the inestimable benefits it confers on the different sexes in their rank. Few of them meditate, on contracting this connexion, the assistance of the poor-laws. They engage in it with the hope of happiness natural to youth, and with the short views of futurity, incident to their station no doubt, but in some degree incident to their species. The prospect of an allowance extorted from the reluctant hand of the overseer and magistrate rarely forms any part of their allusions.

The increase of the agricultural poor within the last thirty or thirty-five years was the effect of an enormous expenditure of the public capital, and of the facility with which the farmers obtained money from the country banks. These causes gave full activity to their employment, work to every hand, and subsistence to every family. The excess of population, compared with the means of employment, only became apparent, when the expenditure ceased, and the currency approached to its former value. The revulsion which took place was sudden, and deprived a large portion of the community, at once, of the means of existence. No outlet could be immediately found for this mass of destitute laborers and their families. In ordinary circumstances, whenever a pressure from the density of population became inconvenient, a drain to other countries would easily relieve the brethren. Time only can now restore the population to its proper balance, either by an increase of the means of employment at home, or by its slow and gradual effluxion to the colonies.

TO SUBSCRIBERS IN ARREAR. ERASURES OF NAMES—DISCOUNT ON UNCURRENT NOTES —POSTAGE ON LETTERS.

In conformity to the general regulations, in regard to subscribers, adopted by the late Editorial Convention, (copied on pp. 669, 670, &c. of this No.)—and which regulations will hereafter form a part of the standing conditions of this publication—every subscriber who remains indebted for two volumes, and whose responsibility is not *known* to the editor, will have his name erased from the list before the issuing of the first No. of the next (6th) volume of the Farmers' Register. To enable each subscriber to know precisely the state of his account, and to afford means for correction of any existing error, a statement of the amount which stands charged as due, will, as heretofore, be printed on the cover of No. 12, which will be issued on March 1st. When no sum is written in the blank left for that insertion, it will show that no charge stands against the subscriber, to the end of the 5th volume. Mistakes, however, are unavoidable. Some, no doubt, now exist in the accounts—and perhaps others (especially of omission) may even be made in filling the blanks on No. 12; as that must be done during the hurried business of directing the copies for the mail. We can only beg to be informed in every case of error, whether of omission or commissson, and the proper corrections will always be readily and promptly made. We may lose by mistakes of account; but cannot possibly gain any thing, if subscribers will merely notice the printed receipts and notifications, relating to their payments, and furnish the necessary corrections of any omission, or other mistake.

In thus striking from the list the names of indebted subscribers, many may, and probably will, be included, who are both honorable and responsible men, and safe and profitable customers, though forgetful and careless of business matters, and therefore slow-paying debtors. This is much to be regretted—but cannot be avoided. The fact of discontinuance will serve to remind all subscribers of this description of the necessity of their not permitting themselves to be confounded with others whose subscription debts are either very doubtful, or desperate. It is presumed that no one, whose continued patronage is worth having, will take offence at the erasure of his name under such circumstances; and of course, it will minister both to our pleasure and profit

to be permitted to replace any of the names thus erased, by receiving an order to that effect.

Sundry subscribers, in the southern and south-western states, have represented that they cannot obtain such bank notes for remittances as are of par value at Petersburg, and have desired to be directed whether to send payments in notes of less value. We are compelled to suffer deductions from our receipts sufficiently heavy, without adding to them the great and fluctuating if not increasing depreciation of paper of remote nonspecie paying banks; and, as a regular system, our rule which requires payment in notes of par value with Virginia bank notes, must be maintained. Nevertheless—to remove this obstacle to the settlement of arrears, and, for the purpose of entering as smoothly as possible on the new general rules as to payments—we agree to receive, for all payments mailed by subscribers before March 20th ensuing, the current notes of any bank of the states in which the debtors severally reside. Postage ought always be paid on letters containing remittances—and on all others, except communications for publication.

From the Mechanic's Magazine.

DEAKIN'S IMPROVED BLAST FURNACE FOR SMELTING IRON ORE, &c.

In the present method of filling blast furnaces, the whole of the materials for making iron, namely, coal, or coke, mine, limestone, &c., are put in at the top of the furnace. On this improved plan, the mine and limestone, will, at first, still be put in there; but when the furnace wroks in a certain state, a part of the mine will be put into it at the flues; and also the greater part of the fuel used for smelting the iron. If pipes are used they be carried upon the outside of the stack of th furnaces, and may be applied to any blast furnace now in work at a small expense. When this plan is adopted on a furnace being repaired, or newly built, the chimney flue should be carried up in the furnace stack. The coal or coke being put into the furnace, mixed with limestone, mine, scroffula, and rubbish, however free, such coal or coke may itself be, when put in, at present, it must become impregnated with the filth that accompanies it, as soon as the heat begins to act; and it is, moreover, consumed before it comes down to the boshes, and consequently, the power of the fuel is destroyed, before it arrives at the part of the furnace where it is wanted to smelt the mine; but by putting the fuel into the furnace, it will meet the blast in the proper place, free from impurities, and in full strength to melt the materials above it. Better iron will thus be made, with a smaller quantity of fuel, than is done by the present method of filling blast furnaces.

ON THE CULTIVATION OF CORN.

To the Editor of the Farmers' Register.

Cypress Spring, Essex county,
December 25th, 1837.

Dear Sir—I have been a subscriber to, and a reader of your valuable paper since its commencement, and I cannot express how much I am indebted to you and your correspondents, for the pleasure and profit I have derived from the perusal of its pages; but at the same time, I must confess I have been somewhat perplexed by the various and conflicting opinions of your contributors, with regard to the management of the different crops raised among us, and more particularly with regard to the corn crop. The cry is "lo! here" and "lo! there," every one having a *best* way to do the same thing. Being a young farmer, and anxious to gain information, so many ways have confused me, being first for "Paul, and then for Apollos," I was never right, till at last, from experience, (which is said to be always the best teacher,) I have, as I think, found out a best (or at least a good) way for myself, as regards the management of a crop of corn.

To prevent the inexperienced from going astray, we should, in all our communications with regard to the management of any crop, state the kind of soil operated upon, as the management suited to one kind might not be proper on another. I would, therefore, in the first place, state that my land is light and sandy, somewhat undulating, resting upon a subsoil of clay. Now, then, for my preparation and after-culture of the corn crop. Begin right, and you will be apt to end well. Good ploughing is the most essential point; provide yourself, therefore, in the first place, with good ploughs, *ploughmen*, not boys, for the latter are not sufficient to break land in the first instance, as it should be. With regard to the depth of ploughing, I would just observe, that I do not myself plough light land more than three or four inches; many good farmers, however, think much deeper necessary; try for yourself. Where a considerable growth is to be turned under, it requires deeper ploughing to effect it; but this with us is unfortunately not very frequently the case, as our stock keep our fields, generally, well picked. But to return: all the manure I can possibly raise, by all the means in my power, is applied to my cornfield; and this I do at all times during the year, as time and opportunity will admit, (for I have not a force sufficient to make this, as it should be, a regular business—) immediately spreading it evenly over the surface, (shell marl at the rate of 250 bushels to the acre, is mixed with it.) I have never found that manure has such a disposition to fly away as is generally supposed. I am rather inclined to believe, from experience, that it sinks and loses nothing; for I have had as good corn on land manured six months before cultivation, as from that which was immediately manured and ploughed in. I commence listing for corn, as it is called with us, about the 1st of March, (earlier than the 15th of February, I should not think of beginning, on light land—swamps should be broken up in the fall—) with one horse or mule, (the latter I prefer as being more hardy, less expensive in their keep, and suiting a negro exactly,) and a small No. 10 Freeborn plough, with which I prefer to run the two first furrows, because you can more effectually break up all the hard ground. After going over my field with these two small furrows, the two-horse plough is started, throwing two furrows more, which are completely lapped over the two first; and this completed, and the beds well harrowed down and split with the same small plough with which the two first furrows were run, I consider myself ready to plant, which

I commence about the 10th of April—rows four and a half feet wide, and two and a half in the step. For this close planting I have been censured by my neighbors, but I have never found my crop to suffer more from drought than theirs; and, indeed, this year, though so remarkably dry, all who saw my crop pronounced it less injured than any in the neighborhood. My seed corn has no previous preparation, having more than once suffered loss by soaking, &c. I was induced once to try ashes and plaster *in* the hill with my corn; the result was, that not more than one half came up. This year, I put the same mixture *on* the hill of corn—it did well and made fine corn. But again to return: the plough is not used in my crop at all after the land is broken up; but in its stead, the double-shovel ploughs are used, which are, in my opinion, preferable to either the plough or cultivator, and I have used both; they do their work well and expeditiously—twice in the row being sufficient to work up the whole well. These are started as soon as the corn is large enough to weed and thin, (say three inches)—the hoes immediately follow, weeding out and thinning the corn to one plant in a hill; the hoes go over once, and the double-shovels twice, or oftener, if possible, before harvest; after which, they are laid aside, and a small iron tooth harrow substituted, which is run twice in a row—the hoes follow, laying by the corn, taking care to earth the hills very slightly. It will be perceived that I do not break up my baulks or middles, until after my corn is planted. This I prefer doing as the corn is coming up, for two reasons; first, because I am thereby less troubled with grass through the season; and secondly, the ploughs, in doing their work, turn up to the surface worms and other insects; and crows, preferring meat to bread, will leave the corn to eat the worms. This I know to be the case from experience—it will cost you nothing to try it. Pursue the foregoing plan, and keep "wide awake and duly sober," and if you fail in a crop, it will not be your fault, or mine either, I hope.

PETER I. DERIEUX.

From the Mining Journal.

CONSTRUCTION OF RAILWAYS.

The Llanelly Railway and Dock Company are adopting a new mode of constructing the upper works of railways, under a patent granted to Mr. Thomas Parkin, who has delivered several lectures upon the subject in London.

As the subject of railways is generally interesting, and must be especially so to the inhabitants of this part of South Wales, which, through the advancement in science, seems destined to become, at no distant period, a very important seat for the manufacture of iron, we shall not hesitate to give a particular description of Mr. Parkin's plan. The road, being prepared of longitudinal bearers of *kyanized* oak, or other hard wood, from four to six inches in the base, two at the top, or four or five feet deep, dovetailed into one another, thus forming a continuous line, with uprights, twelve inches long and about three in diameter, screwed firmly at every yard into their bottom, are fixed, at a proper height and level, in trenches dug in the road, from eighteen inches to two feet wide and deep. The trenches are then filled with concrete, composed of gravel, sand, and Aberthaw lime, in proper proportions, when only the top of the bearers is visible on the surface of the road, all the rest being completely buried in and consolidated with the concrete, which immediately sets and hardens, and in a short time becomes a solid rock, the whole length of the road forming, as an engineer who inspected the work said, "an everlasting railway." The foundation being complete, patent felt is laid upon the top of the bearers whereto bars of iron, two inches wide, and half an inch thick, are firmly screwed, and the road is finished. The dimensions of the trenches must be regulated by the nature of the soil on which the railway is made, while the parties adopting the plan may use wood and iron of any size they think proper. The rails, as at present fixed in iron chairs, mounted on stone blocks, at every yard, form unyielding points of support, and intermediate flexible spaces. The carriages, of necessity, alternately descend below, and rise above, the mean line of progression, and produce concussions on those points, the severity of which is according to the degree of variation from a straight line and the *rapidity* of the motion. At a speed of twenty-five miles per hour, they would occur 733 times in a minute. On the Manchester and Liverpool line, Professor Barlow "found the whole road to tremble;" and the deflection in the rails so great as materially to diminish their strength, in consequence of their being *permanently* fixed to the chairs.

Upon Mr. Parkin's plan, no vibration of the *least possible* degree, is felt, the bars being screwed to *continuous* wooden bearers, bedded upon an unyielding mass of concrete, of the strength and durability of which cement the Roman roads are irrefragable evidence. Besides, the patent felt, between the iron and the wood is a non-conductor of vibration, and aids in lessening the tremulous motion attendant on carriages running even on a perfect plane. The stone blocks in the ordinary mode of construction, being insulated and independent of each other, the preservation of a level surface, (even if its attainment were practicable) and of parallelism in the rails, is impossible, as differences in the subsoil must occur; and when a block has sunk, in ever so trifling a degree, below those next it, the next will either remain in the permanent flexure, or be loosened from the chair, or loosen the chair from the block, or hold the block in suspension. The rails and chairs form a series of levers and fulcra, the action and re-action of which are incompatible with permanent stability.

Upon Mr. Parkin's plan, an even surface and parallel lines may be had, with almost mathematical exactitude, which neither the magnitude of the weights passing on the rails, nor the rapidity of their motion, can disturb, after the concrete has acquired a proper degree of hardness. When a block on one side of an ordinary railway has sunk only in a slight degree, while the corresponding one opposite obtains its position, increased weight will, of necessity, be thrown on the former, and its tendency to sink still further as well as to be forced out of a parallel line be augmented, in the ratio of the sinking. But with Mr. Parkin's rails no such sinking could be anticipated, even were its occurrence possible.

With level parallel rails, scarcely any lateral pressure can be felt, except in curves, where means

will be employed to meet the exigency of the case. The absence of a plane and of parallelism in the rails, is the principal, if not the only cause of lateral pressure, which could do no injury to Mr. Parkin's road, unless it either removed out of its place one-half of the mass of concrete in which the bearers, with uprights a foot long at every yard, are buried—made a breach in the continuous line of bearers—forced the strong iron screws, by which the bars are secured to the bearers, from their hold, or burst the bars themselves asunder. As these bars are only half an inch wide, and are thus secured to continuous bearers, they present no leverage for the flanch of the wheel to act on, when any lateral pressure takes place; whereas in ordinary railways, the leverage is considerable (the wheels being eleveted the height of the rail, which is four or five inches above the point of support,) and produces a corresponding tendency to force the blocks out of a straight line. Upon such an unyielding plane as Mr. Parkin's railway presents, less tractive power, as professor Barlow has ably demonstrated, is necessary than on rails which deflect between the points of support, while the wear and tear of carriages and engines, and the necessity for limiting their weight, are materially lessened.

A locomotive engine weighs from ten to twelve tons, and subjects the rails to the process of a species of rolling, when they split, and become only of the value of old iron. To such an extent was this the case on the Manchester line, that after five or six years it became necessary to have new ones. The less the vibration and concussion, the less liable are the rails to receive this injury, especially when supported on the softer substances of felt and wood. Moreover, as Mr. Parkin's bars only weigh ten pounds per yard, instead of sixty or seventy, the loss from such injury will be proportionably less. Mr. Parkin's plan may be executed cheaper, even where stone blocks cost little, than any other, and with astonishing rapidity. In most parts the saving, by its adoption, will be fully one half. It may be applied to collieries and and private works, especially in Wales, on very advantageous terms. We understand the plan has been recommended by Mr. Brunnel for adoption by the directors of the Great Western railway.

MARL OF SOUTH CAROLINA.

To the Editor of the Farmers' Register.

Washington City,
Jan. 24th, 1838.

Dear Sir—I take a moment, in the House, to drop you a line on a subject on which we conversed somewhat when I had the pleasure to meet you here, to wit, the marl formations or deposites in South Carolina.

There is a region commencing about forty miles below Columbia, and running parallel to the coast, in which is embedded much of a material which I have always believed to be marl. A friend has sent me a small parcel of it to this place, of which I inclose a small specimen in this letter, and shall send a larger one by some other conveyance.

This specimen, is taken, I think, from the banks of the Congaree, or rather the Santee, about seventy miles below Columbia. For forty or fifty miles, the banks of the Wateree abound with this material. It is burned into lime, and used for all the purposes of laying bricks, pointing and plastering. It has not yet been applied, that I can learn, to agricultural purposes.

If you will do me the favor to let me know what is the quality of this marl, and what soils it should be applied to, and in what quantities, I will be greatly obliged to you.

Your obdt. servant,
F. H. Elmore,
Of South Carolina.

[We have had not more leisure than would suffice for a very slight and incomplete chemical examination of the earth sent in the letter above; but that examination was enough to prove that it is a very rich marl. A more accurate analysis will be made, and the result reported in the next number. But we can undertake now to say, that this extensive deposite, as means of improving the lands of South Carolina, will be of incalculable value.

We had not entertained a doubt but that the same calcareous formation which lies under the tide water region of Maryland, Virginia and North Carolina, extended also under the same region in South Carolina. This might be safely inferred from the similar geological features, in other respects, of the whole of this great region. But we had never heard, until lately, of the actual position, or even existence there, of any marl visible or accessible; and we believe that it is certain that not the least use has yet been made of calcareous manures in South Carolina—though it is as much wanting there, and would yield as great profits, as any where else.

It is a matter of additional gratification to us, personally, that our inquiries and suggestions on this subject have not been without effect, in inducing our correspondent to direct his mind to this subject. His native state possesses in these beds of calcareous manure, an unwrought mine of wealth that will yet be far more productive, and a thousand fold more valuable, than all the gold mines in our whole country.

And yet our rejoicing in the knowledge of these facts, and the anticipation of their future results, are accompanied by some bitter feeling of mortification. We have been laboring, for many years, in practical agriculture, and by writing and publishing, to induce our countrymen to use this most cheap and efficient of all manures; and though we have had many subscribers and readers among the intelligent planters of South Carolina, to this day, all our urgent advice and instruction have not served to induce a single cultivator to marl even so much as an acre of land. Truly, we have but small encouragement to persevere in offering to them advice and instruction.—Ed. Far. Reg.]

From the Mechanics' Magazine.

CONSUMPTION OF COAL IN GREAT BRITAIN.

The quantity of iron annually produced in Great Britain may be taken at 700,000 tons; and the quantity of coal required, at an average, to produce each ton of iron, including that used by engines, &c. may be estimated at 5½ tons; giving

a total of 3,860,000 tons consumed in the making of iron. According to Mr. Kennedy, the quantity of coal consumed in the cotton manufacture, in 1817, was upwards of 500,000 tons, and the manufacture has since more than doubled; so that, allowing for greater economy, we may fairly estimate the consumption of coal in the cotton trade at 800,000 tons a year. Its consumption in the woollen, linen, and silk trades cannot be less than 500,000 tons. The smelting of copper ores of Cornwall consume annually about 250,000 or 300,000 tons; and it is supposed that the brass and copper manufactures require nearly as much. In the salt works of Cheshire, Worcestershire, &c. the consumption is probably not under, if it do not exceed, 300,000 tons. The consumption in lime works may, it is believed, be estimated at 500,000 tons. It would appear, therefore, that the total annual consumption of coal in Great Britain may be moderately estimated as follows:—

	Tons.
Domestic consumption, and smaller manufactures - - - -	15,000,000
Production of pig and bar iron -	3,850,000
Cotton manufacture - - -	800,000
Woollen, linen, silk, &c. - -	500,000
Copper smelting, brass manufactures, &c.	450,000
Salt works - - - - -	300,000
Lime-works - - - - -	500,000
	21,350,000
Exports to Ireland - - -	750,000
Ditto to colonies and foreign parts	600,000
Total	22,700,000

If we suppose that the above sum of 22,700,000 tons cost the consumer, on an average, 7*s.* a ton, it will be worth, in all £7,955,000 a year!—*M'Culloch's account of the British Empire.*

From Silliman's Journal.

DAVENPORT'S RECENT EXPERIMENTS IN ELECTRO-MAGNETIC MACHINERY.

(Copy of a letter from Mr. DAVENPORT.)

To Professor Silliman.

Dear Sir—Having lately made a number of applications of the power of *large galvantic magnets* in propelling machinery, (being independent of the large machine now constructing by the association,*) I have thought proper to state to you the results, believing they would not be uninteresting to you.

I have constructed a machine, with two revolving magnets, two feet in length, made of iron three and a half inches in diameter, and weighing, after being wound with six coils of No. 10 copper wire, one hundred pounds each. Three stationary magnets of two feet diameter, were placed around the periphery making six poles, and weighing one hundred pounds each.

With this machine I produced one hundred revolutions per minute, with six square feet of sheet zinc exposed to action, surrounded with thin sheet copper.

I then displaced the stationary magnets, and substituted one magnet three inches in diameter, forming a semicircle, with the poles directly opposite each other, and weighing about one hundred pounds. With this magnet I produced one hundred and fifty revolutions per minute, using the same quantity of zinc surface. With one revolving magnet I produced one hundred and seventy-five revolutions per minute, with four square feet of sheet zinc. I next constructed a *hollow* magnet of two feet in length and four inches in diameter, made of boiler iron, five-sixteenths of an inch in thickness, with four coils of copper wire, with which I succeeded in getting one hundred revolutions per minute. A hollow magnet was then constructed of thin sheet iron, of the thickness of common *stove-pipe iron*, which revolved one hundred and fifty times per minute. *Hollow* magnets I think may be used to great advantage where weight is an objection; but in my experiments I generally make use of *solid* iron.

I also constructed a machine with simply two magnets formed of two inch round iron, of fifteen inches in length, of the stirrup form. The distance between the centres of the poles is five inches, and the magnet revolves four hundred and fifty times per minute, with two square feet of zinc. The stationary magnets being placed with the poles pointing upwards, and the poles of the revolving magnet pointing downwards, the shaft to which the revolving magnet is attached passes through its centre, and rests on the centre of the stationary magnet. Two of these machines (weighing in all fifty pounds) I have attached to small drilling-works, which I find produce sufficient power to do all my drilling of iron and steel, to the size of one-fourth of an inch diameter.

I have adopted this form on the third machine which I have recently put in operation. The magnets are formed of two and three-fourth inch iron with the centres of their poles nine inches apart and weighing 50 lbs. each, with this I produced three hundred revolutions per minute, and have successfully attached it to turning hard wood of three inches diameter. I find the power increases in full proportion to the increase of weight and without increasing in proportion the size of the battery. The wire must be increased in size in proportion to the size of the iron used, and consequently the diffiiculty attending long wires will always be avoided.

I find no difficulty in using my machine *twelve hours in succession*, without changing batteries or agitating the solution.

I am erecting conveniences to test the powers of each magnet as they are increased in weight and size, and think I shall be able in season for the April number of your Journal to give the exact increase of power in proportion to weight, of magnets weighing from ten pounds to several tons.

I have also made some very satisfactory trials, while making my machines, respecting the expense for the consumption of zinc and acids, and

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* The machine alluded to in the above letter, as now being constructed for the Electro-Magnetic association, by Messrs. Davenport & Cook, is nearly completed, and is expected to be of about two tons power. It is formed by a combination of small magnets, weighing about four pounds each, and three and a half inches between the poles. These magnets are placed, two hundred and thirty four in number, on an iron shaft six feet in length, and a corresponding number in a circle as stationary magnets.

I think I shall soon be able to give nearly the precise cost of making the largest machinery.

Galvanism is, I trust, destined to produce the greatest results in the most simple form, and I hope not to be considered an enthusiast, when I venture to predict, that soon engines capable of propelling the largest machinery will be produced by the simple action of *two galvantic magnets*, and worked with much less expense than steam.

Yours, respectfully,

THOMAS DAVENPORT.

New York, December, 26, 1837.

From the Paisley Advertiser.

GREAT IMPROVEMENT IN DOMESTIC ECONOMY, DISPENSING WITH COALS AS FUEL.

We have this week to notice a discovery which will produce a greater chance in the arrangements of the domestic life, than any discovery perhaps that has been made for a hundred years past; we allude to the substitution of gas for coals in the warming of houses in cooking operations, &c. &c. The principle on which this is done is so very simple, in its application so very easy, as to ensure the speedy and extensive adoption of the improvement in every place where a supply of gas can be obtained. The principle is as easy to describe as it is to apply, and is simply this: the mixture of gas with five or six times its bulk of atmospheric air, and the burning of the mixture through wire gauze.

The modes of doing this may be varied according to the taste and fancy of the consumer, and great room for the display of taste is afforded: but we shall describe one of the simplest modes of application as best suited for general purposes. Supposing then the fire is wanted near the ordinary position of the grate, a gas pipe is laid to the spot, and the jet is fixed pointing upwards, so as to be about four inches from the floor or hearth stone. This jet is surrounded with a sheet iron pipe, or cylinder, of a diameter from $3\frac{1}{2}$ to 7 inches according to the quantity of fire wanted, and of the height required, say from one to three feet, and the top of the cylinder is covered with a piece of fine wire gause, kept in this place by a small iron hoop, circumscribing the cylinder in the same way as the hair cloth is secured on the common seive.

We have spoken of the mixture of gas with five or six times its quantity of atmospheric air, and the question may arise, how are we to mix substances which are neither visible nor tangible? It fortunately happens that no care on this point is necessarry. The bottom of the cylinder which circumscribes the jet, and in which the mixture of gas and air takes place, has supporters fastened on it to raise it an inch or two from the floor, or openings are cut out of the cylinder itself, so as to admit the air freely to enter at the bottom. These openings can be easily varied by dampers to admit such a quantity of air as may on trial be found most advantageous. The top of the cylinder may pass through an iron plate, which may be kept on a level with a wire gauze, and which plate will serve to hold cooking utensils in the kitchen, or mantlepiece ornaments in drawing-rooms, dining-rooms, and bed-rooms. If this top plate, as it may be called, which may be of any size or shape required, be exactly on a level with the wire gauze, then it will be necessary to place on it a small stand, so as to keep the bottom of a pan or kettle, three or four inches from the wire gauze. A perforated piece of cast iron may be laid in the top of the wire ganze, for the purpose of raising the flame a little above it, and of thus rendering it more durable.

We need scarcely add, that any number of these fire places can be fitted up in a kitchen range so that if room permit, a dozen or a score of pots may be boiling, each on its own fire, while to make one boil fiercely, and another to simmer slowly, no labor with poker and tongs is required; all that is necessary is a small touch of the stop cock, by which every fire in the range may be made to burn with different degrees of intensity.

With respect to price; it is found that one jet will be quite sufficient for the cooking and warming purposes of an ordinary small family, occupying a room and kitchen, and who are in the habit of keeping only one fire burning. In the lighting of fires, no chips, no peats, no puffing and blowing with mouth or bellows is necessary; and what in many cases is highly important no time is lost. A person in kindling a fire has only to turn the stop-cock, apply a lucifer or other match, and his fire, in a second is in readiness for boiling a kettle or frying a beaf-steak either of which it will do in a very few minutes. Here, then, are coals wholly dispensed with—here is a total escape from the nuisance of cinders, ashes, dust and what is still more annoying—smoke.

The discovery which we have been attempting to describe, we fear rather imperfecty, was made by Mr. James Cook, manager of the gasworks here, a gentleman of taste and scientific skill, who has done more perhaps than any other man in Scotland, in improving gas illumination. As he has no intention of taking out a patent for his discovery, he has permitted us to describe it as fully as we please, that all who choose may reap the advantages.

We may state in conclusion, that our office was yesterday fitted up in a plain way with this new variety of Promethean benificence, so that those of our local readers who may not understand our description fully, may call and have that description illustrated by occular demonstration.

From the Bulletin d'Encour. June, 1837.

BEET SUGAR.

It appears to have been proved by M. Parrayon, beet sugar manufacturer at Merignies, France, that by adding diluted sulphuric acid to the pulp, as much juice can be obtained by two cold pressures as by hot pressure, and that any injurious effect of the acid is completely removed by filtering the juice cold through animal charcoal properly prepared. It passes from the filter with an alkaline rather than an acid reaction. After being filtered, it undergoes clarification by the ordinary methods, requiring, however, rather less lime than usual. The sirup is remarkably white. One litre of it (2.1135 pints) produced 970 grammes (=31 oz troy,) whereas the same quantity, by measure, of the ordinary sirup, yields only 750 grammes.

APOLOGY.

Much to our disappointment, and not a little to our inconveniance, the engraver has failed to send on the wood cuts for the 'Treatise on Draining,' in the time promised, and counted on, and in consequence, the regular continuation of the publication could not be maintained; and our office arrangements to meet that object have been made in vain. The remainder of the work will be given as soon, and as much in connexion, as possible, after the engravings are received.

CONDITIONS OF THE FARMERS' REGISTER.

I. The Farmers' Register is published in monthly numbers, of 64 large octavo pages each, and neatly covered, at $5 a year—payable in advance. Or five *new* subscribers, by sending their names and $20 at one time to the editor, will receive their copies for one year, for that sum, or at $4 for each. Purchasers of any 5 volumes (except Vol. I.) at one time in like manner, shall have them for $20.

II The risk of loss of payments for subscriptions, which have been properly committed to the mail, or to the hands of a postmaster, is assumed by the editor. *All mail payments must be made in notes or checks of par value in Virginia*; and these, and all other letters, (except such as contain articles for publication,) must be *post paid.*

III. For all copies not received by mail, at the proper post offices, duplicates will be furnished to those subscribers who have complied with their own obligations, and who give early notice of the miscarriage.

IV. If a subscription is not directed to be discontinued before the first number of the next volume has been published, it will be taken as a continuance for another year. Subscriptions must commence with the beginning of some volume, and will not be taken for less than a year's publication.

.V The mutual obligations of the publisher and subscriber, for the year, are fully incurred as soon as the first number of the volume is issued: and after that time, no discontinuance of a subscription will be permitted. Nor will a subscription be discontinued for any earlier notice, while any thing thereon remains due, unless at the option of the editor—(or in obedience to the resolutions copied below.)

VI. Any five *old* subscribers, by paying (for any volume) $20 *directly to the editor, at any one time before the issue of No. 2, of that volume*, (which will be on April 1st) *and without causing any charge for postage or agency*, shall be credited for their five copies for the year so paid for—thus reducing the price to $4 for each. This privilege, of course, ceases, for each volume, as soon as its 2nd number is issued—and no subscriber can use it, *who is indebted for a previous year*, unless his arrears are paid at the same time.

The following resolutions of the Editorial Convention of Virginia, will hereafter form part of the conditions of the Farmers' Register, and will be strictly observed.

1. "All subscriptions shall hereafter be considered as incurred and due in advance, and for a year's publication, unless specially ordered for a shorter time, and paid for in advance for that shorter time, when so ordered.

2. "No publication shall be sent to the order of any new and unknown subscriber, unless paid for in advance, or satisfactory reference be made to some known and accessible person in regard to the subscriber or his payment. But, in case of an order for a publication, without payment, from a new subscriber who is unacquainted with the conditions, a single number may be sent, containing, or accompanied by, a copy of this regulation.

3. "The names of all subscribers, whose ability to pay may be unknown to the publisher, and who may remain indebted on open account at the end of two years, from the time when the advanced payment was due, shall be erased from the list of subscribers." [*Resolutions of the Editorial Convention of Va.*

Address— EDMUND RUFFIN,
Editor of Farmers' Register, Petersburg, Va.

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